Paddy PoP

Paddy Package of Practices 1 : Implementation of APCNF – Approved updated standardized APCNF protocols for implementation in Paddy crop (kharif)

The APCNF practices adopted by best Paddy farmers across districts was keenly studied and accordingly, the Paddy crop (Kharif) protocols standardized and circulated to districts for adoption at unit level.

The approved POPs were popularised among the cadres and farmers, leading to development of more compact APCNF paddy blocks in districts. The DPMs have been tracking the high yield APCNF farmers of paddy in the districts of East Godavari, West Godavari, Krishna, Guntur and Nellore for future learnings and updation of POPs. It is decided to update the POPs of kharif paddy developed after discussion with DPMs and field cadres concern. The State unit collected highest yielding APCNF Paddy crop (kharif) farmer POPs, after that State technical team discussed with DPMs concerned and finalised POPs and updated for adoption. All the practices adopted by these high yield achievers in the districts of East Godavari, West Godavari, Krishna, Guntur and Nellore are enclosed in the Annexure-2 for ready reference. The POPs updated are as follows.

1. **Agroecological 9 universal principles of Natural farming are**

i) Soil to be covered

ii) Minimal disturbance to soil

iii) Bio stimulants as necessary catalysts

iv) Use of indigenous seed

v) Diverse crops/trees of 15-20 crops

vi) Integrate animals into farming

vii) Increase organic residues on the soil

viii) Pest and disease management through botanical extracts

ix) No synthetic fertilizers, pesticides and herbicides.

2. **These principles are to be operationalized through location specific practices.**

3. All the core practices of BJM, GJM & DJM are to be followed mandatorily and their respective quantities can be enhanced and should not be reduced.

Eg- Split doses (soil, foliar) & respective quantities may be increased.

4. Before kharif, raising of Pre Monsoon Dry Sowing (PMDS) with 18 varieties of crops, sown in May and continued up to July 2nd week (approx.75 days) to get a good crop stand and biomass. By practicing PMDS, the farmers harvest some portion of the different groups of crops/vegetables/leafy vegetables, can be used for self-consumption, some biomass may be used as fodder or may be used as Mulch/incorporated in the soil before kharif plantation.
5. Seed and seedling treatment with Beejamrutham (BJM) @5 ltrs/25-30 kg seed respectively, it stimulates & catalyzes soil biology and protects from seed/soil born pests and diseases.
6. Promote Line sowing, Drum Seeder planting, SRI (System of Rice Intensification) in irrigated paddy and Direct seeding (Line) in rainfed paddy which allows minimal disturbance to the soil.
7. Ghanajeevamrutham (GJM): i) Type-2 GJM at 1000-1500kg/acre, during last ploughing/Puddling and ii) Type-1 GJM at 400kg/acre in two equal splits at 20 DAT, 40 DAT at 20 days interval.
8. Farm Yard Manure (FYM) should not be added as it is to soil. It must be treated with DJM for conversion to Type II GJM and then only applied.
9. Dravajeevamrutham (DJM): i) Soil application: 800ltrs/acre, four times, at 35DAT, 50 DAT, 65 DAT, 80DAT @200lit Each ii) Foliar application: 50 ltrs DJM in 100 ltrs of water each spray, four times, at 25DAT, 45DAT, 55DAT, 70DAT @200 ltrs each.
10. Application of Azolla: at 10-15 Kgs/Acre after 7 DAT which fixes nitrogen, reduces weed development, acts as living organic mulch (reduces irrigation frequency by reducing evaporation loss of water) and some biomass can be incorporated.
11. All the non-negotiables (Clipping of leaf tips, Alleys, Border/Bund/Peripheral plantation-Marigold/Red gram/Maize/Vegetables And Glyricidia/Sesbania, Yellow sticky traps, Pheromone traps-for Yellow Stem Borer, Bird perches and Light traps) must be practiced.
12. Growth promoters: Use i) Panchagavya- 4lts/acre, 1 time-at tillering Stage ii). Egg amino acid- 200ml in 100lits of water/acre, 1 time- at Panicle initiation stage. iii). Sapthadhanyakura tonic- 250ml in 100lits of water,1 time-at Milking and grain filling stage to boost both quality and quantity of yields.
13. Suggested 365 DGC in paddy under different situations.

i) Canal situation (Delta):

a) PMDS-Kharif Paddy-RDS(Rabi Dry Sowing)-Rabi Paddy

ii) Bore wells and Uplands:

a) PMDS-Kharif Paddy-RDS-Rabi Paddy;

b) PMDS-Kharif Paddy-RDS-Rabi Pulses/other crops

14. Under borewells, adjust the kharif sowings so that the harvest's may be complete by October end or by 1st FN of Nov and then take up Rabi dry sowings, raise RDS up to 25-50 days, so that there may be good growth for incorporation.
15. All DPMs should promote high end models in paddy fields i.e IFS Model, raising of Horticulture plants (like Fruit trees, Vegetables and Flower crops) after widening of Paddy bunds and initiate, 5 Layer model (50'X50' model) (in 5-6 cents area) in one corner of paddy field after raising dedicated corner area to 5 feet height and SRT (Saguna Rice Technology) where ever possible.
16. All ICRPs fields should be converted into model plots by adopting POPs recommended by APCNF and conduct CCE by inviting all surrounding chemical farmers.
17. All L1 and L3 cadres should be given trainings on POPs for adoption in before PMDS, during Kharif and during Rabi.
18. Paddy compact blocks, should be encouraged around model plots of kharif paddy, where all POPs can be easily demonstrated and the fear of low yields can be addressed among paddy farmers and the DPMs/AOs/RCs/NFAs/NFFs have to supervise, document on biometric observations, CCEs etc.
19. All the best POP farmers should be tracked in subsequent years aiming at further higher yields.
20. All the district RCs shall be given the responsibility of adopting these POPs in Model plots in their jurisdiction and follow all protocols thoroughly for entire season. Further, based on the observations, the POPs would be updated for the next season for necessary implementation.
21. All DPMs/AOs/RCs and Community cadres should always keep a watch on new farmers who exceed the yields mentioned in the Annexure-2. The PoPs of such farmers should be documented.
22. All POPs developed are to be discussed in debriefing meetings and to suggest appropriate measures as per POPs from time to time during crop season.
23. Best APCNF paddy farmers unit wise case studies to be documented for publishing as booklet at district and state level used for wide publicity, awareness and capacity building.
24. DGF films may be made on the short listed farmers based on the phenological data, at the earliest, for use in CB training programmes.

Hence all the DPMs are instructed to follow them scrupulously and take all the suggested measures towards ensuring effective grounding of APCNF in Paddy (Kharif) crop.

Paddy Package of Practices 2 : Updated model APCNF Protocols/Package of Practices (POPs) for implementation in Paddy crop for Rabi

In Rabi, the Paddy crop protocols were developed by the State team in consultation with the district teams. These took into account the Natural farming practices of the Champion Paddy crop farmers across the districts. These protocols were circulated to districts for adoption at unit level. They were popularised among the APCNF field cadres and farmers. The overall feedback was very positive. It led to better practices on ground and better results for farmers.

In view of this, it is decided to update the POPs of Paddy crop for the Rabi season, based on the results of the previous crop. The state technical team discussed with DPMs, field cadres and champion farmers and finalised the POPs for adoption.

The POPs/protocols updated in Paddy crop for Rabi season are as follows:

1. The 9 universal principles of APCNF are:

i) Soil to be covered with diverse crops throughout the year

ii) 9-18 diverse crops

iii) Minimal disturbance to soil

iv) Bio stimulants as necessary catalysts

v) Use of indigenous seed

vi) Integrate animals into farming

vii) Increase crop residues and other organic residues on the soil

viii) Pest and disease management through Integrated Pest Management (IPM) / Integrated Disease Management (IDM) methods as non-negotiables, and use of botanical extracts as last resort, and

ix) No synthetic fertilizers, pesticides and herbicides.

2. These principles are to be operationalized through location specific practices.
3. All the core practices of Beejamrutham (BJM), Ghanajeevamrutham (GJM) & Drava Jeevamrutham (DJM) should be followed. The respective quantities indicated in this POPs

can be enhanced slightly but should not be reduced. Ex- Split doses (soil, foliar).

4. After kharif, raising of Rabi Dry Sowing (RDS) with a minimum of 9 varieties of crops (comprising of Pulses, Oil seeds, Millets, Vegetables and Leafy vegetables), sown as relay crop in November 2nd week and continued up to December 2nd week (appx. 30 days) to get a good crop stand and biomass. The essential principle is to have 365 days green cover and to see that the soil is not kept barren.
5. Seed and seedling treatment with Beejamrutham (BJM)
6. To avoid weedicide application, promote Line sowing, Drum seeder planting, SRI (System of Rice Intensification) in irrigated paddy and Direct seeding (Line) in rainfed paddy which allows minimal disturbance to the soil.
7. Facilitating placement of paddy weeders, manual and power driven at CHC (Custom Hiring Centre)/NPM shops is very crucial.
8. Ghanajeevamrutham (GJM): i). Type-2 GJM at 1000-1500kg/acre, during last ploughing/Puddling and ii). Type-1 GJM at 400kg/acre in two equal splits at 20 DAT, 40 DAT at 20 days interval.
9. Farm Yard Manure (FYM) should not be applied, as it is. It must be treated with DJM for conversion to Type-2 GJM and then only applied.
10. Dravajeevamrutham (DJM):

i). Soil application:

- 2000 litres /acre, 10 times @ 200l each time, starting from 10 DAT (Days of Transplantation) with 10 days interval.

ii). Foliar application:

- 4 times, at 25DAT (15 litres of DJM in 100 litres of water)
- 45DAT (20 litres of DJM in 150 litres of water)
- 55DAT (30 litres of DJM in 150 litres of water)
- 70DAT (50 litres of DJM in 150 litres of water)

11. Application of Azolla: 4 Kgs/Acre after 7 DAT which fixes nitrogen, reduces weed growth, acts as living organic mulch (reduces irrigation frequency by reducing evaporation loss of water) and some biomass can be incorporated.
12. S2S kit- All the non-negotiables must be mandatorily practiced

i. Clipping of leaf tips

ii. Seedling treatment with BJM

ii. Alleys- Provide 30 cms alley for every 2 mts

iii. Azolla mother pit

iv. Border/Bund/Peripheral-plantation-Marigold/Redgram/Maize/Vegetables and Glyricidia /Sesbania.

v. Yellow sticky traps-20-25/Acre

vi. Pheromone traps-for Yellow Stem Borer and Leaf folder-8/acre at 20-30 DAT

vii. Bird perches-10-15/Acre

13. Growth promoters:

i) Panchagavya- 4lts/acre, 2 times-at tillering stage and 70 DAT

ii) Egg amino acid- 200ml in 100lts of water/ acre, 1 time-at Panicle initiation stage.

iii) Sapthadhanyakura tonic- 700 grams of paste in 100lts of water, 1 time-at Milking and grain filling stage to boost both quality and quantity of yields.

14. S2S kits (including Sticky traps, Pheromone traps, Seed/Seedlings of Trap/Border/Bund planting- vegetables crops, Azolla mother pit, Light traps etc.,) of Paddy (Rabi) crop should be planned and placed at NPM shop/FPO/VO etc. before crop season and DPM should monitor regularly during period.
15. Suggested 365 DGC in paddy under different situations

i) Canal situation (Delta):

a) PMDS-Kharif Paddy-RDS (Rabi Dry Sowing)-Rabi Paddy

ii) Bore wells and Uplands:

a) PMDS-Kharif Paddy-RDS-Rabi Paddy;

b) PMDS-Kharif Paddy-RDS-Rabi Pulses/other crops.

16. Under borewells, adjust the Rabi sowings in a way so that the kharif harvest's may be completed by 1nd FN of Nov and then take up Rabi dry sowings; raise RDS up to 25-30 days, so that there may be good growth for incorporation at the time of transplantation. Transplantation around 15th January will avoid cool winter temperatures and helps in good growth due to increased microbial activity also.
17. All DPMs should also consider promoting high end models in paddy fields i.e IFS Model and SRT wherever possible.

Administrative instructions on taking POPs to farmers:

18. All MTs (NF), L1, L2(NF) and L3 cadres should be given trainings on POPs for adoption before PMDS, during Paddy (Rabi) crop growing period.
19. All MTs (NF), L1, L2(NF) and L3 own fields (in addition to S2S farmers/SHG leaders) should be converted into model plots by adopting POPs recommended by APCNFC. CCEs should be conducted by inviting all surrounding chemical farmers so that 10-15 acres compact blocks will develop. Their yields should be among the best for a given crop (highest net incomes also). They will be evaluated accordingly.
20. L1, L3 should also try sowing leafy vegetables in direct Paddy, line sown paddy fields in between two rows at the time of sowing.
21. The DPMs should discuss cadres' NFAAP (Natural Farming Annual Action Plans) progress every month, so that the adoption of the POPs and the results from the POPs is understood better.
22. Paddy (Rabi) crop compact blocks, should be encouraged around model plots, where all POPs can be easily demonstrated.
23. The DPM/AO/RCs/NFAs/NFFs have to supervise, document biometric observations, CCEs data etc.
24. All the best POP farmers should be tracked in subsequent years aiming at further higher yields.
25. All the district RCs shall be given the responsibility of adopting these POPs in Model plots in their jurisdiction and follow all protocols thoroughly for entire season. NFAs will supervise the work of cadres and handhold them during field visits and appropriate CB during debriefing/briefing sessions. Further, based on the observations, the POPs would be reviewed and updated for the next season for implementation.
26. Best APCNF Paddy (Rabi) crop farmers (including cadres) unit wise case studies to be documented. These will be published as booklet at district and state level used for wide publicity, awareness and capacity building.
27. DGF films may be made on the shortlisted farmers case studies from the beginning i.e from PMDS to Harvest, for use in CB training programmes.

Hence all the DPMs are instructed to follow them scrupulously and take all the suggested measures towards ensuring effective grounding of APCNF in Paddy (Rabi) crop. Communicate the above protocols and Annexure-1 among all community cadres after translating into Telugu.
