

Management strategies suggested to mitigate water stress or deficit rainfall :

1. Summer ploughing against the slope and safe drainage of excess rainfall into farm ponds for soil moisture conservation and supplemental irrigation.
2. Water conservation techniques like farm ponds, de-silting & bund strengthening in water storage structures etc., can help in harnessing the water during excess rainfall and use during the deficit condition.
3. Inter cultivation, conservation furrow, broad bed furrow and residue mulching to in-situ conservation of soil moisture.
4. Seed hardening (Soak the seeds in 2% Potassium dihydrogen phosphate for 10 hours and shade dry) for sorghum, ragi.
5. Seed hardening (Soak the seeds in 2% KCl for 6 hours and shade dry) for pearl millet
6. Seed treatment with 0.2 % Calcium chloride (for 6 hours and shade dry) for groundnut and seed treatment with 0.1% Manganese sulphate (or) 0.1% Zinc sulphate for green gram at the time of sowing.
7. Mechanical sowing with tractor drawn seed drills for groundnut and millets
8. Lifesaving irrigation can be given at critical crop growth stages from farm ponds/ recommended for all crops.
9. Foliar spray of TNAU Crop boosters viz., Pulse Wonder (2 kg/ acre), Groundnut Rich (2 kg/acre/spray), Cotton Plus (5 kg/acre), Maize Maxim (3 kg/acre/spray), Sugarcane Booster (1 kg, 1.5 kg and 2 kg at 45, 60 and 75 days after sett planting) for Pulses, Groundnut, Maize and sugarcane respectively for improving drought tolerance.
10. Foliar application of 1%PPFM at 10 days interval for enhancing drought tolerance.
11. Foliar application of 0.5 % KCl spray at vegetative stage for cereals, pulses and oilseeds
12. Mepiquat chloride at 250 ppm on 45 and 60 DAS for cotton to arrest excess vegetative growth.
13. Foliar spray of Kaolin 3% or 1% KCl to overcome moisture stress at different critical crop stages of dry seeded rainfed and irrigated un-puddled lowland rice.
14. To induce tolerance under short and prolonged drought situation in Kuruvai season, apart from seed treatment, foliar spray with 1% KCl + CCC at 500 ppm during vegetative stage is effective in mitigating the drought in dry seeded irrigated un-puddled lowland rice.
15. Foliar application of TNAU Crop shine to mitigate crop plants from drought and high

temperature stress:

Rice

- Dosage
Seed treatment: 5 ml /litre of water
Foliar spray: 1 litre /acre
- Spray volume: 200 lit/acre
- Stages of spray: At Panicle initiation and anthesis stage

Finger millet, Green gram and Tomato

- Dosage
Seed treatment: 2.5 ml /litre of water
Foliar spray: 0.5 litre /acre
- Spray volume: 200 lit/acre
- Stages of spray: At flowering stage

Cassava

- Dosage
Seed treatment: 2.5 ml /litre of water
Foliar spray: 0.5 litre /acre
- Spray volume: 200 lit/acre
- Stages of spray: At 30 and 60 days after planting
- Increases fertility coefficient and grain filling percentage
- Increases grain yield up to 20 to 30 per cent under abiotic stress conditions

16. Adopt crop residual mulching and dust mulching in soil
17. Renovation of percolation pond and water storage structures
18. Erecting community bore well in dry river bed
19. Organizing cattle camp and providing fodder and water
20. Designer seed (integrated seed management technique for enhanced field emergence) for all crops
21. Placement of fertilizers for reducing the quantity of fertilizers
22. Anti-transpirants spray at critical stage of moisture stress
23. In cotton, nipping terminal portion of main stem beyond 15th (at 70 – 80 DAS) and at 20th (at 90 DAS) in case of hybrid and varieties, respectively for arresting transpiratory loss of water.
24. For perennial tree and flower crops Drip irrigation is suggested towards improving irrigation efficiency; residue mulching can help towards reducing water loss..
25. For coconut crop mulching around the basin can enhance water conservation.

