

Contingency plan for rainfall deficit management for cashew

Majority of the cashew plantations established in India are under rainfed condition and very few only are under irrigation. The cashew adapted well in west and east coast regions and subsequently spread to hilly and plain regions of Karnataka, Tamil Nadu, Gujarat, Chhattisgarh, and NEH States. The cashew is suitable to diverse climatic conditions and rainfall pattern ranging from scanty rainfall region (around 800 mm) to heavy rainfall region (around 4000 mm) thus showing its wide adaptability under varied moisture availability condition. Moreover, cashew needs frost free conditions.

1 & 2. If monsoon is delayed by 15 – 30 days

The cashew is planted after onset of monsoon from June to September. If there is delay in onset of monsoon, the plantation programme should also be delayed coinciding with monsoon. Infact, fresh grafts when planted require sufficient soil moisture for initial establishment and hence cashew is planted during monsoon season. Whenever there is drought situation after planting they need protective irrigation. The irrigation through pitcher (hold pots) is recommended in dry land situations.

2. Rain deficit at vegetative phase

Established plants survive even in adverse soil moisture conditions. If the drought situation persists due to low rainfalls in the rainy season, there is every possibility of yield getting affected. Under such situation to reduce the yield loss, one or two protective irrigation may be given wherever irrigation facilities exist. However, mulching of basin by dry biomass is helpful in conserving soil moisture

4. Rain deficit at reproductive phase

Due to the non-uniform distribution of rainfall over the years, cashew experiences severe moisture stress particularly during reproductive phase from December to May, which adversely affects its flowering and fruit set causing flower drying and immature nut drop. Under severe moisture stress situations drying of flowers, poor fruit set and nut development owing to yield loss is observed. To overcome such problems, proper soil and water conservation measures like crescent bund, trenching, inward basin etc coupled with coconut husk burial or mulching has been found useful.

Supplemental irrigation of 200 litres of water/plant once in 15 days during January to March from water collected in ponds through rain harvesting helps in flowering and nut development by improving the microclimate with increased humidity. It also leads to increased nut and kernel weight by reducing flower and nut drying to some extent.

Drip irrigation during fruit development stages wherever water is available may be helpful during the drought situations to rainfed cashew crop. Normally for west coast of Dakshina

Kannada irrigation by drip at 20 litres/tree/day for mature cashew plantations (10 to 15 years) is recommended.

5. Terminal drought

The rainfall deficit or cessation of rains at early stage also adversely affects the cashew nut yield particularly in late maturing varieties. To maintain the proper soil moisture regime, the harvesting of rain water and recycling them during deficit period is suggested. Moreover, adoption of soil conservation measures and installation of drip wherever water source is available will be helpful.