

EFFECT OF DRIP, FERTIGATION AND PLASTIC MULCHING ON GROWTH AND YIELD OF CAULIFLOWER

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ABSTRACT

A field study was carried out at Horticultural Research Station, Assam Agricultural University, India to standardize the drip and fertigation requirement in cauliflower with or without mulch. The experiment was laid out in randomized block design which included three levels of drip irrigations through 100, 75, and 50 per cent evapotranspiration (ET) as well as three fertigation levels with 125, 100 and 75 per cent of recommended dose of fertilizers i.e. NPK @ 80:60:60 kg ha⁻¹. Black polyfilm mulch and no mulch were replicated thrice in all these nine treatment combinations. Meteorological data were fitted to CROPWAT 8 software to find out the reference crop evapotranspiration as per FAO Penman-Monteith approach. Based on the reference crop evapotranspiration data the water requirement for the studied crop was estimated to be 31.22 L/plant. The daily fertigation was scheduled by the application of 2 minutes drip through ventury. The study revealed that maximum yield as well as yield attributing parameters could be obtained in 100 % ET and 125 % of RD with polyfilm mulch. However, the highest benefit cost ratio (2.48:1) was recorded under the treatment combination of 100 % ET and 75% of RD with plastic mulch.

KEYWORDS: Drip irrigation, fertigation, plastic mulching, irrigation water requirement