



## Effect of various mulches on soil moisture content, soil properties, growth and yield of kinnow under rainfed condition

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**Abstract :** An experiment was conducted during 2009-2011 to assess the response of various mulches (Bajra straw, maize straw, Ficus leaf, brankad (adhotada vassica), farm yard manure and black polyethylene) on moisture content, soil properties, growth and yield in Kinnow. Different organic and inorganic mulches significantly increased the soil moisture status in various soil depths. Black polyethylene mulch recorded the maximum moisture percentage followed by farm yard manure and brankad. Black polyethylene, farm yard manure and brankad (adhotada vassica) had given favorable results with regards to soil moisture content of the soil. The black polyethylene and farm yard manure were found to be more effective in producing maximum growth extension than rest of the treatments although the difference were non significant among the treatments. Plant treated with black polyethylene mulch recorded highest yield (3.62) followed by farm yard manure (3.45) and brankad (adhotada vassica) (3.36) while minimum in control plant. The poor aeration, non decomposable nature and high cost are the constraints of using black polyethylene as mulch material. Organic mulch of farm yard manure is decomposable nature and high costs are the constraints of using mulches material (Bajra straw, maize straw, grasses, brankad). Fruit yield/plant and fruit size and total soluble solids were highest with black polyethylene mulch, followed by farm yard manure and brankad. Among the organic mulches evaluated, brankad better responses are low cost, easily available local areas followed by bajra straw, maize straw and grasses.

**Key Words :** Soil moisture, Mulching, Kinnow, Black polyethylene, Rainfed condition

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