Economics and effect of various herbicidal treatments on fruit quality and yield of plum cv. SATLUJ PURPLE

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ABSTRACT : Efficient weed control is a challenging undertaking in most orchards as it affects the growth, yield and successful orcharding. The investigation on weed management and economics of various herbicidal treatments in plum was conducted at Punjab Agricultural University, Ludhiana during the cropping season. The experiment was carried out with ten (10) weed management treatments viz., T₁ = Diuron @ 1.2 kg/ha; T₂ = Diuron @ 1.6 kg/ha; T₃ = Diuron @ 2.4 kg/ha; T₄ = Mulching with black polythene (400 gauge); T₅ = Glyphosate @ 0.8 l/ha; T₆ = Glyphosate @ 1.2 l/ha; T₇ = Glyphosate @ 1.6 l/ha; T₈ = Sod culture; T₉ = Weed free check; T₁₀ = Unweeded check. Pre-emergence herbicide (Diuron) and black polythene mulch were applied during the first fortnight of March and the Post-emergence herbicide (Glyphosate) on second fortnight of March. The results indicated that the different weed management treatments significantly improved the fruit weight, pulp weight and fruit yield. However, maximum fruit weight, pulp weight and fruit yield was obtained under followed by glyphosate @1.6 l/ha (T₇) as post-emergence and diuron @ 2.4 kg/ha (T₃) as pre-emergence application. Based on the weed control efficiency, weed index values, black polythene mulch (T₄) proved to be most effective. Considering net benefit from economic analysis, it appeared that the herbicide glyphosate @ 1.6 l/ha (T₇) is the best possible option for effective and economic weed control in high density planted plum. Black polythene mulch (T₄) is not at all cost-effective.

KEY WORDS : Plum, Prunus salicina, Weed management, Glyphosate, Diuron, Mulch, Sod culture, Economics