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# Effect of weed management on yield, economics and nutrient uptake in tomato (*Lycopersicon esculentum* Mill.)

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**ABSTRACT** : A field trial was conducted in Instructional farm, Krishi Vigyan Kendra, Angul of Odisha during *Kharif* season of 2009 and 2010 taking seven treatments (T<sub>1</sub>-oxyflourfen 0.25 kg ha<sup>-1</sup>, T<sub>2</sub>- pendimethalin 1.0 kg ha<sup>-1</sup>, T<sub>3</sub>- metribuzin 0.50 kg ha<sup>-1</sup>, T<sub>4</sub>- straw mulch, T<sub>5</sub>- farmers practice of 2 hand weeding at 20 and 40 DAT and T<sub>6</sub>- unweeded control) in Randomized Block Design with three replications. The minimum weed index(15.11 %) was obtained in application of straw mulch which minimized nitrogen, phosphorus and potash removal by weeds to a tune of 89.7, 94.6 and 89.3 per cent, respectively over that of weedy check. Farmers practices recorded maximum plant height (52.26 cm), no. of branches plant<sup>-1</sup> (12.65), no. of leaves plant<sup>-1</sup> (62.35), fruits plant<sup>-1</sup> (26.3), fruit yield (328.2 q ha<sup>-1</sup>) and weed control efficiency (80.9 %) with significantly reduced both weed density (22.4 m<sup>-2</sup>) and their dry weight (27.6 g m<sup>-2</sup>). The same treatment also recorded maximum gross return (Rs.131280 ha<sup>-1</sup>) and B:C ratio (2.06) with additional net return of Rs.48120 ha<sup>-1</sup> as compared to weedy check maximum weed density m<sup>-2</sup> at 60 DAS (192.6) was found in weedy check whereas farmers practices recorded minimum weed population (22.4). Hence, farmers practice was found to be effective in case easy availability of labours whereas application of straw mulch was economically viable for control of weeds in case of labour scarcity with better nutrient uptake and maximum fruit yield and higher net profit.

**Key Words** : Herbicides, Nutrient uptake, Straw mulch, Tomato, WCE, WI

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