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Effect of distillery spent wash on growth and yield parameter of sunflower (*Helianthus annuus* L.) soil chemical properties and economics in dryland agro ecosystem

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ABSTRACT : A field experiment conducted during *Kharif* season of 2008 on sandy clay loam soil at G.K.V.K, Bangalore revealed that application of 1.5 times N through spent wash along with 1.5 times P through SSP gave significantly superior grain yield (1190.5 kg ha^{-1}). At harvest, plant height, number of leaves and total dry matter were significantly higher with treatment receiving 1.5 times N plus recommended P and 1.5 times K as in spent wash. However, it was found to be at par with 1.5 times N through spent wash along with 1.5 times P through SSP. The increase in seed yield was attributed to higher intake and recovery of nutrients from the spent wash. However, total dry matter production alone does not reflect the efficiency of a crop, but its accumulation in different parts is the real index of efficiency. Maximum uptake of nitrogen (29.4 kg ha^{-1}), phosphorus (14.2 kg ha^{-1}) and potassium (79.6 kg ha^{-1}) was associated with the same treatment. Further, it had higher available N (294 kg ha^{-1}), P (59.5 kg ha^{-1}) and K (1230 kg ha^{-1}) in soil after harvest. Highest net income (Rs.13,694 ha^{-1}) was noticed with 1.5 times N through spent wash along with 1.5 times P through SSP, whereas highest benefit cost ratio (2.21) was noticed with the recommended N through spent wash.

Key Words : Spent wash, Sunflower, Productivity, Soil chemical properties, Economics

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