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# Nutrient uptake and phytotoxicity study of herbicides as influenced by different treatments in onion seed crop

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## ABSTRACT

**The experiment on nutrient uptake and phytotoxicity study of herbicides as influenced by different treatments in onion seed crop was laid out in randomised block design with three replications and eight treatments. An experimental soil was clayey in texture, low in available N (241.41 kg ha$^{-1}$), medium in available phosphorus (19.81 kg ha$^{-1}$) and moderatly rich in available potassium (350.50 kg ha$^{-1}$). Among the herbicide treatment application of oxyfluorfen @ 0.25 kg a.i. ha$^{-1}$ recorded maximum uptake of nitrogen, phosphorus and potassium, however it was at par with fluchloralin @ 1 kg a.i. ha$^{-1}$ and oxadiargyl @ 0.09 kg a.i. ha$^{-1}$ except uptake of phosphorus in fluchloralin. Use of oxyfluorfen @ 0.1875 kg a.i. ha$^{-1}$ + one hand weeding at 30 days after planting registered significantly maximum uptake of nitrogen, phosphorus and potassium. However, it was at par with fluchloralin @ 0.75 kg a.i. ha$^{-1}$ and oxadiargyl @ 0.675 kg a.i. ha$^{-1}$ along with one hand weeding at 30 days after planting in respect of uptake of nitrogen. Weed free treatment up to 70 days after planting removed the significant amount of nitrogen, phosphorus and potassium. The application of pre-emergence herbicides oxyfluorfen, fluchloralin and oxadiargyl along with one hand weeding at 30 days after planting are suitable to reduce the nutrient loss from the soil by weeds than herbicide alone. The cost of cultivation of onion seed crop considerably lower in oxadiargyl (PE) @ 0.09 kg a.i. ha$^{-1}$ followed by fluchloralin (PE) @ 1 kg a.i. ha$^{-1}$. The remaining treatments were found almost similar cost of cultivation. There was no sign of phytotoxicity to onion crop, due to herbicides used during investigation.**

**Key words :** Nutrient uptake, Phytotoxicity, Onion yield

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