PERFORMANCE OF FORAGE YIELD AND ECONOMICS OF OAT (*AVENA SATIVA* L.) VARIETIES UNDER DIFFERENT NITROGEN LEVELS IN CENTRAL INDIA

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Abstract: A field experiment was conducted at Instructional cum Research Farm, Indira Gandhi Krishi Vishwavidyalaya, Raipur during *Rabi* season of 2007 to study the "Performance of forage yield and Economics of Oat varieties under different nitrogen levels in central India " has been taken up with objectives of effect of nitrogen on forage yield and economics of oat, performance of different genotype of oat & interaction effect of nitrogen and genotype of oat.. The experiment was laid out in Factorial Randomized Block Design with three replications. The treatments were allotted to different plots by using random method. Different varieties of oat *viz*. UPO-2005-1(V_1), NDO-1(V_2), Kent (SC) (V_3)and OS-6 (SC) (V_4) and four levels of nitrogen *viz*. 0 kg ha^{-1} (N_1), 40 kg ha^{-1} (N_2), 80 kg ha^{-1} (N_3) and 120 kg ha^{-1} (N_4) are two factors were kept under different treatment combinations. The growth and yield attributes, like plant population, tillers, leaf stem ratio, fresh & dry forage yield were superior under Kent (SC) (V_1) variety and 80 kg nitrogen ha^{-1}. While, there attributes were registered superior with UPO-2005-1(V_1) variety of oat and 120 kg ha^{-1} (N_4) as compared to oat varieties and different nitrogen levels. Among different varieties of oat, Kent (SC) fetched maximum net profit (Rs. 8584.37 ha^{-1}) and B: C ratio (0.95) while NDO-1 variety could bring lowest in net profit and B: C ratio. Among different levels of Nitrogen, application of Nitrogen @ 120 kg ha^{-1} recorded highest net return (10558.12), but highest B: C ratio (1.14) was obtained in 80 kg N ha^{-1}. Maximum net profit (Rs 11405.50 ha^{-1}) and B: C ratio (Rs 1.21 Rp^{-1} invested) was obtained in V_3N_4 (Kent (SC) + Nitrogen @ 120 kg ha^{-1}) treatment combination followed by V_1N_3 (UPO-2005-1 + Nitrogen @ 80 kg ha^{-1}) (Rs 11148.50 ha^{-1}) and B:C ratio (Rs 1.23), respectively, while it was found lowest under V_2N_1 (NDO-1+ Nitrogen @ 0 kg ha^{-1}) treatment combination.

Keywords: Nitrogen levels, forage yield, varieties and Economics of Oat

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