The research was aimed to determine the effect of different increasing levels of Origanum onites L. essential oil as feed additives in rainbow trout diets in order to observe their influence on growth performance, survival and liver, kidney, spleen histology. Fish (26-27 g) were fed the experimental diets for 90 days. Experimental diets supplemented with four different concentrations (0.125, 1.5, 2.5, 3.0 ml kg⁻¹). Fish fed diets containing essential oils of O. onites L. had significantly higher final weight and growth than the control group. Feed conversion ratio in fish fed diets containing 1.5 and 3.0 ml kg⁻¹ essential oil of O. onites L. were improved than other treatments (p<0.05). There were some histopathologic changes, congestion, necrosis or degeneration were observed in liver, kidney and spleen samples of fish fed with high level of herbal oil containing diets. This results suggested that the essential oil of O. onites L. can be applied as growth promoter, when added to rainbow trout feed.