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**Effects of intra peritoneal injection of safflower (*Carthamus tinctorius*)
extract in two different solvent (ethanol and normal saline)
on some hematological indices in rainbow trout (*Oncorhynchus mykiss*)**

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Abstract

In several studies, the effects of herbal extracts in fish have been considered as immunostimulant in the present study, the effects of safflower (*Carthamus tinctorius*) extract administration have been studied on hematological parameters at two different solvents (ethanol and normal saline) via intra peritoneal injection method in rainbow trout (*Oncorhynchus mykiss*). In this regard, 3 treatment groups, one positive control group (injected just with solvent) and one negative control (with no injection) were considered for each solvent. Treatment groups for each solvent injected with different levels of safflower extract including 50, 100 and 200 mg/kbw. According to the results, in fish injected with ethanol solvent showed 15.6-20% mortality, no mortality was recorded in fish injected with normal saline as solvent. According to the hematological study, white blood cell count (WBC) were calculated significantly lower in all treatment groups received safflower extract on 3th, 7th and 10th days post injection compared to controls. And so in treatment groups received safflower extract in normal saline as solvent MCV and MCH indices significantly decreased compared with controls ($P \leq 0.05$), these indices didn't change in treatments injected with normal saline ($P > 0.05$). Finally, based on the present study, it can be concluded that intraperitoneal injection of safflower extract in rainbow trout is not appropriate.

Keywords: Hematology, Intraperitoneal injection, Rainbow trout, Safflower

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