

Optimizing the technique for replacement of unicellular algae with agricultural by-products in feeding *Artemia urmiana* and parthenogenetic *Artemia*

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Abstract

In order to assess the maximum replacement possibility of unicellular green algae with cheap food sources for feeding *Artemia*, two strains of *Artemia urmiana* and parthenogenetic *Artemia* were fed under laboratory condition using wheat bran, soybean meal and 50/50% mixed diet of wheat bran/soybean, each in 12 different concentrations together with different rations of *Dunaliella salina* for 15 days. The results were compared with those fed only on algae *D. salina* as control group. At the end of the experiment, control groups in each two strains (with 9.11mm growth and 86.25% survival in *A. urmiana* and 8.55mm growth and 85% survival in parthenogenetic *Artemia*) had almost the best condition. In *A. urmiana* treatments 95.8-88% replacement for algae of wheat bran, treatment 94% replacement for algae of soybean and treatments 97-94% replacement for algae of mixed wheat bran/ soybean showed no significant differences with control in both growth and survival. In parthenogenetic *Artemia* treatments 94-82% replacement for algae of wheat bran, treatments 91-88% replacement for algae of soybean and treatments 91-82% replacement for algae of mixed wheat bran/soybean showed no significant differences with their control in both growth and survival. According to the results, it seems that single-cell algae and their production requires exorbitant spending and personnel which can be replaced with easily affordable agricultural wastes, without need to specialized staff.

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