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Title: Effects of dietary administration of stinging nettle (*Urtica dioica*) on the growth performance, biochemical, hematological and immunological parameters in juvenile and adult *Victoria Labeo* (*Labeo victorinus*) challenged with *Aeromonas hydrophila*

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Date: 07 April 2015

Publication Number: AquaFish Research Report 15-339

Abstract: AquaFish will not be distributing this publication. Copies may be obtained by writing to the authors.

We investigated effects of dietary administration of stinging nettle (*Urtica dioica*) on growth performance, biochemical, hematological and immunological parameters in juvenile and adult *Victoria Labeo* (*Labeo victorinus*) against *Aeromonas hydrophila*. Fish were divided into 4 groups and fed for 4 and 16 weeks with 0%, 1%, 2% and 5% of *U. dioica* incorporated into the diet. Use of *U. dioica* in the diet resulted in improved biochemical, hematological and immunological parameters. Among the biochemical parameters; plasma cortisol, glucose, triglyceride and cholesterol decreased while total protein and albumin in fish increased with increasing dietary inclusion of *U. dioica*. Among the haematology parameters: red blood cell (RBC), white blood cell (WBC) counts, haematocrit (Htc), mean cell haemoglobin (MCH), mean cell haemoglobin concentration (MCHC) and neutrophils increased with increasing dietary inclusion levels of *U. dioica*, some depending on the fish age. Serum immunoglobulins, lysozyme activity and respiratory burst were the main immunological

AQUAFISH RESEARCH REPORTS are published as occasional papers by the Management Entity, AquaFish Innovation Lab, Oregon State University, Corvallis, Oregon 97333-3971 USA. The AquaFish Innovation Lab is supported by the US Agency for International Development under Grant No. EPP-A-00-06-00012-00. See the website at <aquafishcrsp.oregonstate.edu>.

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parameters in the adult and juvenile *L. victorinus* measured and they all increased with increasing herbal inclusion of *U. dioica* in the diet. Dietary incorporation of *U. dioica* at 5% showed significantly higher relative percentage survival (up to 95%) against *A. hydrophila*. The current results demonstrate that using *U. dioica* can stimulate fish immunity and make *L. victorinus* more resistant to bacterial infection (*A. hydrophila*).

This abstract was excerpted from the original paper, which was published in *Fish & Shellfish Immunology* (2015). 44(2): 533-541.

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