ADDCON Group

ADDCON was founded in 1995 and is a group of companies with production sites in Norway (Porsgrunn) and Germany. The company has furthermore offices in Africa and Asia. ADDCON is specialized in „Green Chemistry“. It is a leading manufacturer of various kinds of formates and propionates for the use as feed additives, preservatives and silage additives. The products are furthermore applied in the food industry as well as in the oilfield industry and in de-icing of airports. All products are bio-degradable and have minimal impact on the environment.

Management

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Collaborations in Norway	**Website**
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Growing awareness from consumers and producers of aquaculture species has resulted in a demand for responsible and sustainable aquaculture. The regulatory authorities in most exporting countries now focus on the misuse of antibiotic growth promoters (AGP) in aquaculture, while public attention has shifted towards sustainable production methods. As a result, alternatives to AGP have had to be found. Several feed additives, including acidifiers consisting of organic acids and their salts may be promising alternatives to the use of antibiotics in aquaculture feeds. Acid preservation of fish and fish viscera to produce fish silage has long been common practice and the final product has been widely used in fish feeds with beneficial effects reported. The beneficial effects of acid preserved products prompted the scientific community to investigate the effects of applying these short-chain acids directly onto fish feed.

In recent trials, the inclusion of different organic acid salts, especially potassium diformate (Aquaform®) was tested in tilapia (*Oreochromis niloticus*), which is becoming the second most cultured fish species in the world (FAO forecast for 2010: 3.5 Mio t tilapia production world-wide, mainly in SE-Asia), in cooperation with the Bogor Agriculture University, Indonesia.

320 male hybrid tilapia were randomly allocated into 4 treatment groups (negative control and 3 acidifier groups, containing 0.2%, 0.3% and 0.5% potassium diformate, respectively). Fish were fed 6 times a day over an 85-day trial period. Beginning on day 10, all fish were orally challenged with *Vibrio anguillarum* (10^5 CFU/d) once a day for 20 days. Significant improvements ($P<0.05$) could be monitored in all treated groups. The 0.2% application of potassium diformate in tilapia led to a significantly increased feed intake (8.6%), weight gain (18.6%) and a significantly improved feed conversion ratio (8.2%). Furthermore, mortality rates due to the *Vibrio* infection were significantly reduced. This reduction was dose dependent.

With the results shown above, it may be stated that the use of organic acid salts, like Aquaform®, can improve the grow-out period in tilapia aquaculture in terms of performance and sustainability.