



Vietnam's Ministry of
Agriculture and
Rural Development (MARD)

SuPa



Koninkrijk der Nederlanden

Ministry of Economic Affairs,
Agriculture & Innovation (EL&I)
NL/VRF10/WSSD/1

Newsletter 3

Improving waste management for Pangasius culture in the Mekong Delta in Vietnam

SuPa aims to improve the sustainability, i.e. reduce environmental impact, of the catfish sector.

SuPa is funded by contributing companies/institutions of which the logo is shown below, and through the Public Private Partnership Fisheries of Netherland's EL&I and Vietnamese' MARD.

SuPa does research on improved feed (R-1) and water management (R-2) to safeguard fish health, and to maintain or improve yield, and product quality. After the pilot and on-farm tests of the first result areas, the mitigation of the environmental impact and the cost-benefit ratio will be analyzed (R-3). Thereafter the partners will prepare extension material (R-4).

R-1 and R-2 aim to reduce waste discharge and to improve water quality, thereby avoiding diseases and thus the use of antibiotics and chemicals. Improving water quality inside ponds and reducing effluent discharge implies the reduction of faecal waste staying in the water column by: 1) improving feed digestibility to reduce faecal excretion, 2) increasing the stability of the excreted faeces, and 3) increasing the removal of the faecal matter before it settles at the pond bottom.

SuPa's 2nd progress meeting: 10-12-2013, Ho Chi Minh city

The second SuPa project progress meeting will be held in Ho Chi Minh City on 10 December 2013. After the review of the progress the activities for year 2014, SuPa's last year, will be prepared. And then, we can all join the conference:

Asian Pacific Aquaculture 2013, 11-13 Dec., Ho Chi Minh city

In the pangasius session the first result of R-1 and R-2 will be presented and discussed with our aquaculture community.

Progress of R-1, improving feed:

The effect on the stability of faecal waste showed sufficient variation between the tested sets of protein rich, energy rich and low nutritive feed ingredients. At present scientists of **CTU** and **AFI** are analysing the results of the test on the effect of binders and technology on the faeces' stickiness.

Results will be used to formulate a series of feeds to be tested in an experiment before testing it at pilot scale in the last trimester of 2013, and on-farm in 2014.

Miss Le Cam Tu sampling the sediment from the fish tanks for the feed trials at the College of Aquaculture and Fisheries, Can Tho University



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Update of progress on R-2, reduce waste and improve water quality:

After having assessed the effect of feed protein content and water recirculation systems on fish performance in 2 m³ tanks, the involved scientists of RIA-2 and AFI designed a pilot system together with a consultant from ACE (www.ace4all.com).



The pilot outdoor RAS tested at station of RIA-2 in Cai Be; at the left you see Nhut while being interviewed for the R-4 video.

Following suggestions of the first SuPa progress meeting the design uses air pumps and a floating bio-filter (picture at the top). The sediment captured below the bio-filter is transferred to the sedimentation tank with before the water is ready for reuse. The use options of the concentrated sediment for other purposes should be tested.

The pilot system of 200 m³ constitutes a module that can easily be scaled up by installing several in a pond and connecting them to one sedimentation tank. The growth rate of the fingerlings in the first month is awesome and mortality limited.

The effect of denitrification, and the value for methane production of the sediment from the 2 m³ tanks was tested using specialised equipment. The value of the sediment accumulating in the septic tank from the pilot system will be tested for both methane and fertiliser.

R-3, economic feasibility: On August 1 and 2, Ms Ngoc will collect information on the perception of the pilot system from a sample of 30 farmers, and from experts, respectively. The farmers are selected from the ones she interviewed for the base-line data in the 1st trimester of 2013.

R-4, result dissemination: Project Manager and Local Coordinator have started the selection of producers for the video to dissemination SuPa's results. The proposal of the video design is going to be presented for comments in the annual progress meeting on December 10, 2013.

General: The Dutch government funding for the SuPa project will be extended with funding from another program. This extension will be until September 2014.

Project partners and contributing parties (names contact persons)

Wageningen University (WU), Aquaculture & Fisheries (AFI), project leader: Verreth Johan (director), Bosma Roel (manager), Verdegem Marc (aquaculture systems), Schrama Johan (fish nutrition);

WUR outside WU/AFI: Willem vander Pijl (WU/LEI: value chain), Meuwissen Miranda (WU/BEC: farm economy);

EU partners: Jo Dewulf (Ghent University, Belgium: Life Cycle Assessments);

Vietnamese partners: FITES (Nguyen Tu Cuong, Tran Van Vy), Research Institute for Aquaculture No2 - RIA-2 (Nguyen Van Hao, Nguyen Nhut); an Tho University - CTU (Nguyen Thanh Phuong, Le Cam Tu).

Contributing companies: Vinh Hoan (Nguyen Ngo Vi Tam), Queens Products BV (Harry Hogendoorn), Marine Harvest (Depestele Geert), Provimi-Vietnam (Hang Dao Thi Thu), De Heus (Salden Nic).

More information on-line: <http://www.wageningenur.nl/en/Expertise-Services/Chair-groups/Animal-Sciences/Aquaculture-and-Fisheries/Research/Projects/Show/SuPa.htm>



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