Project N°: COLL-CT-2006-030384

6th Framework Programme

SUSTAIN AQUA

Integrated approach for a sustainable and healthy freshwater aquaculture

SUSTAINAQUA COURSES FOR FRESHWATER AQUACULTURE FARMERS

As part of the SustainAqua project eight national European freshwater aquaculture associations will provide professional training courses for aquaculture farmers in the following countries: Austria, Denmark, Germany, Hungary, Poland, Sweden, Spain, and Turkey. In addition, a comprehensive e-learning course will complete the training and information activities. The courses aim to help farmers sustainably restructure their farms to ensure long-term economic success; to produce more efficiently; to promote environmentally friendly and healthy products; and to improve their image. The courses will be conducted by experts in the fields of sustainable freshwater aquaculture.

SCHEDULE FOR 2009

	Course 1		Course 2		Course 3	
HUNGARY, AKVAPARK	SustainAqua – Towards sustainable aquaculture		Intensive systems training		Pond aquaculture training	
Date, location	27 May	Szarvas	25 June	Szarvas	26 June	Rétimajor
Contact	Dr. Dénes Gál, Szarvasi Akvapark Egyesület, gald@haki.hu, +36 66 515323					
GERMANY, VDBI	Beginner's course for recirculation aquaculture systems		SustainAqua and carp farming		SustainAqua and trout farming	
Date, location	18-19 June	Potsdam	2 July	Bremerhaven	3 July	Wietzendorf near Soltau
Contact	Prof. Reiner Knösche, Verein der Deutschen Binnenfischerei e.V., reiner.knoesche@online.de, +49 3322 238812					
SWEDEN, VRF	Results of the "SustainAqua" project: Applications in Sweden?		Sustainable aquaculture in general, esp. recirculation systems something for this facility?			
Date, location	13-14 May	Göteborg	10-11 June	Kälarne		
Contact	Eva Brännäs, Vattenbrukarnas Riksförbund, Eva.brannas@vfm.slu.se, +46 907868295					
POLAND, PTBA	SustainAqua and trout farming		SustainAqua and trout farming		SustainAqua and trout farming	
Date, location	16-18 June	Gdansk	11 July	Nożynko	25 July	Rytel
Contact	Anna Pyć, Stowarzyszenie Producentów Ryb łososiowatych, ad@aller-aqua.pl, +48 668815097					
SPAIN, OPP	SustainAqua and trout farming – Towards sustainable aquaculture		SustainAqua and carp farming – Towards sustainable aquaculture			
Date, location	19 June	Madrid	03 July	Zamora		
Contact	Raúl Rodriguez Sainz-Rozas, Organización Productores Piscicultores, info@piscicultores.net, +34 91-5530616 Concha Jambrina Leal (responsible for coordination), conchajambrina@gmail.com					
AUSTRIA, ÖFV	Sustainable Aquaculture - Results of SustainAqua focusing on carp culture		Sustainable Aquaculture - Results of SustainAqua focusing on trout culture		Sustainable Aquaculture - Results of SustainAqua focusing on carp culture	
Date, location	19 June	A-3943 Schrems	24 June	A-4642 Sattledt	25 June	A-8142 Wundschuh
Contact	Dr. Günther Schlott, i.A. Österreichischer Fischereiverband, guenther.schlott@baw.at, +43 2853 78207					
TURKEY, BTG	SustainAqua - Trout farming and recirculation aquaculture		SustainAqua - Trout farming and recirculation aquaculture		SustainAqua - Trout farming and recirculation aquaculture	
Date, location	July	Rize	July	Fethiye	July	Kahramanmaras
Contact	Deniz Tosun, Su Ürünleri Tanitim Dernegi, deniztosun@gmail.com, +90 53336083 88					
DENMARK, ODA	SustainAqua and improving energy efficiency in recirculation aquaculture		Sustainable management on recirculated trout farms		Sustainable aquaculture - management, quality and certification	
Date, location	15 June	Silkeborg	18 June	Silkeborg	23 June	Silkeborg
Contact	Ms Lisbeth Jess Plesner, Danish Aquaculture Organisation (ODA), lisbeth@danskakvakultur.dk, +45 89 21 22 60					

A HANDBOOK FOR AQUACULTURE

At the training sessions a handbook developed by the SustainAqua consortium will be distributed. This handbook will contain the training material developed on the basis of the results from the research activities carried out by the consortium. The core of the SustainAqua project is the development and evaluation of sustainable methods to increase process efficiency, diversify production, and improve product quality. These various methods, called AQUA+ modules, will be explained in the handbook. The information will include the necessary preconditions to use the modules, their advantages and disadvantages, how to implement and operate them, as well as their costs and benefits.

THE SUSTAINAQUA PROJECT

SustainAqua is a three-year collective research project partly funded by the European Union under the Sixth Framework Programme. The project is directed at the European freshwater aquaculture sector, which faces growing competition from countries with lower production costs. To make the industry both more sustainable and more competitive the project investigated a variety of technologies in five different case studies in Hungary, Poland, the Netherlands, Denmark and Switzerland. The technologies seek to improve different conventional aquaculture systems by lowering construction, maintenance and running costs, particularly in the area of wastewater treatment.

MULTINATIONAL CONSORTIUM

The SustainAqua consortium comprises ten associations (IAGs), six small and medium-sized companies (SMEs), and seven research organizations (RTDs). ttz Bremerhaven coordinates the project. EUROFISH International Organisation is responsible for the IPR, dissemination and exploitation management, and the Aquaculture and Fisheries Group from the Wageningen University for the scientific management. The main task of the research organisations (RTDs) is to develop, manage, and evaluate the case studies. Additionally the RTDs develop practical training materials and train the IAGs, which represent different aquaculture sectors. The IAGs then train their member SMEs.

CASE STUDIES - RESULTS

The "Tropenhaus Ruswil" in **Switzerland** uses principles of ecological engineering like the use of waste as resource for this integrated cultivation of tilapia and tropical fruits. Research results include:

- Integration of *Astacus astacus* into tilapia production
- Cultivation of *Asellus aquaticus* within system as high-quality and healthy feed source
- Application of aquaponic filters to increase biological performance and stability of the system.

In **Poland**, innovative modules for traditional carp aquaculture were explored, with following results:

- Increased utilisation of nutrient resources in polyculture involving carp and paddlefish, a high market value species
- Successful use of a pond system for utilization of waste matter, providing the only source of energy, nutrients and minerals which are integrated into fish feed
- Consumer preference is for carp fed on natural food (plankton) opposed to supplementary grain feed.

In **Hungary**, solutions for the treatment of high nutrient loads of African catfish farms as well as combinations of intensive and extensive fish production were assessed:

- High water treatment efficiency of the effluents of African catfish farms through cultivating wetland crops for biomass production (use for bioenergy)
- Promising combination of cultivating European and African catfish in cages, located in extensive carp ponds, with periphyton for higher water quality.

In **the Netherlands**, different modules were tested in semi-closed Recirculating Aquaculture Systems to reduce (1) energy consumption, (2) water consumption and (3) the emission of nitrogen, phosphorus, COD and organic matter. Research results include:

- Better performance of manure denitrifying reactor with a higher C/N ratio diet, thereby improving water quality and reducing water consumption.
- Design and operating parameters of manure denitrifying reactor
- A model predicting effect on sustainability parameters of integration of manure denitrifying reactor in a 100 MT tilapia farm
- Reduction in manure denitrification reactor sludge volume discharge through application of geotube treatment (with and without polymer supply)
- Design and operating parameters of a Periphyton Turf Scrubber in indoor RAS and outdoor ponds.

In **Denmark**, model fish farms for rainbow trout production have been established to meet the stringent Danish regulations. Research results include:

- A calculation model, adapted to commercial feed used on the model trout farms, for prediction of the amounts and composition of waste components transferred to the watercourse,
- Energy costs of fish production may be reduced by proper operation of the pumping systems moving and aerating the recirculated water in the model trout farms. However, the energy costs for aeration were significantly dependant on the method of aeration.

COLLECTIVE RESEARCH PROJECT

Co-financed by the European Union under the 6th Framework Programme (FP6)

Project duration: 09/2006 - 09/2009
Total budget: 3.3 million euros
More information: www.sustainaqua.org

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