

# IBBA Strategic Planning - Workshop III, Plant Biotechnology

Ponta Delgada, 25 Janeiro, 2011

## Microalgae production for commercial purposes in the Azores

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## MICROALGAE PRODUCTION FOR COMMERCIAL PURPOSES IN THE AZORES

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The exact number of species of microalgae is still unknown. Currently some citations report the existence of between 200 000 to several million representatives of this group. Such diversity is also reflected in the biochemical composition thus, microalgae are a source of unlimited products.

In recent years, much interest has been focused on the biotechnological potential of microalgae, mainly due to the identification of various substances synthesised by these organisms. This activity, in practice in several countries and starting in mainland Portugal, has never been developed at the Azores.

The present project is an integrated approach of astaxanthin production from the microalgae *Haematococcus pluvialis* to determine its industrial feasibility using vertical and horizontal photobioreactors. The test took place outdoors at local weather conditions and the culture media utilized was made from common fertilizers that proved to be very effective.

The values of biomass and astaxanthin obtained in this trial show possible commercial potential.

**Keywords:** Microalgae, *Haematococcus pluvialis*, astaxanthin, photobioreactors.

## IBBA Strategic Planning - Workshop III

Plant Biotechnology - Prof. Robert Verpoorte (Consultant of the Regional Directorate of Science Technology & Communications)

January 24<sup>th</sup>, 2011 – Angra do Heroísmo

Registration: Mrs. Ana Carolina Amaral [acamaral@ibba.pt](mailto:acamaral@ibba.pt)



Time	Event	Participants	Place
08:00 – 08:30	Meeting with IBBA Directors	IBBA Directors (FPValle, J Azevedo)	Univ. Azores - Campus Pico da Urze
08:30 – 11:15	<b>Meeting with Researchers &amp; other Stakeholders</b> 5 min Opening – FPValle: IBBA Chairman of the Board of Directors 10 min Eduardo Dias: Dept. Agricultural Sciences – University of the Azores 10 min Q&A – R. Verpoorte 10 min Paulo Borges: CITA-A University of the Azores 10 min Q&A – R. Verpoorte 10 min Airidas Dapkevicius: CITA-A University of the Azores "Isolation, Identification and Evaluation of Natural Antioxidants from Aromatic Herbs" 10 min Q&A – R. Verpoorte 10 min To be confirmed CBA – University of the Azores 10 min Q&A – R. Verpoorte 30 min Coffee-Break 50 min Wrap-up by Prof. R. Verpoorte	<b>Open participation but subject to registration</b> <b>Confirmed to date:</b> Robert Verpoorte Leiden Univ. Consultant DRCTC Francisco Valle (IBBA) José Azevedo (IBBA) Eduardo Dias (UAç) Cândida Mendes (UAç) Diana Pereira (UAç) Liliana Marques (UAç) Maria Rita da Costa (UAç) Paulo Borges (UAç) João Madruga (UAç) Airidas Dapkevicius (UAç) Lurdes Enes (UAç) Célia Silva (UAç) Rui Elias (UAç) Fabíola Gil (UAç) Íris Foroni (UAç) Maria Filipa Domingos (UAç) Andreia Fausto (UAç) Luísa Brás (Direcção Regional do Ambiente) Raquel Ferreira (Azorina) Fernando Sieuve de Menezes (Fruter) Conceição Filipe Carvalho (Fruter)	Univ. Azores - Campus Pico da Urze <b>Auditório</b>
11:15 – 12:15	<b>Visit to Labs and Herbarium – Pico da Urze</b> Herbarium – Rui Elias Entomoteca – Paulo Borges Biochemistry lab – Célia Silva	<b>Restricted participation</b>	Univ. Azores - Campus Terra Chã
12:30 – 13:30	<b>Lunch</b>		Univ. Azores - Campus Pico da Urze
14:00 – 15:00	<b>Lecture Prof. Robert Verpoorte</b>	<b>Open participation no registration required</b>	
15:15 – 16:15	<b>Visit to Labs and Herbarium – Terra Chã</b> Herbarium – Eduardo Dias CBA Labs – Artur Machado	<b>Restricted participation</b>	Univ. Azores - Campus Terra Chã
To be defined	<b>Meeting with IBBA Directors</b>	IBBA Directors (FPValle, J Azevedo)	

## IBBA Strategic Planning - Workshop III

Plant Biotechnology - Prof. Robert Verpoorte (Consultant of the Regional Directorate of Science Technology & Communications)

January 25<sup>th</sup>, 2011 – Ponta Delgada

Registration: Mrs. Ana Carolina Amaral [acamaryl@ibba.pt](mailto:acamaryl@ibba.pt)



Time	Event	Participants	Place
08:30 – 12:20	<b>Meeting with Researchers &amp; other Stakeholders</b>	<b>Open participation but subject to registration</b>	<b>Univ. Azores - Campus Ponta Delgada</b> <b>Sala de Pós-Graduações do D3B Piso 0</b>
5 min	Opening – FPValle IBBA Chairman of the Board of Directors	<b>Confirmed to date</b> Robert Verpoorte Leiden Univ. Consultant DRCTC Francisco Valle (IBBA)	
10 min	Anabela Isidoro: Regional Director of Forest Resources	José Azevedo (IBBA)	
10 min	Q&A – R. Verpoorte	Ana Neto (UAç) Ana Patarra (UAç)	
10 min	Ana Rita Patarra: CIIMAR University of the Azores “Biotechnological applications of selected macroalgae”.	Emanuel Xavier (UAç)	
10 min	Q&A – R. Verpoorte	Luís Filipe Teves (Algicel) Gonçalo Mota (Algicel)	
10 min	Emanuel Xavier: CIIMAR University of the Azores “Microalgae production for commercial purposes in the Azores”	Maria do Carmo Barreto (UAç) Mónica Moura (UAç)	
10 min	Q&A – R. Verpoorte	Maria João Teixeira Pereira (UAç)	
10 min	Maria do Carmo Barreto: CIRN University of the Azores	Anabela Isidoro (Dir-Reg Recursos Florestais) Nuno Loura (Direcção Regional do Ambiente)	
10 min	Q&A – R. Verpoorte	Violante Medeiros (INOVA) Catarina Rodrigues (INOVA)	
30 min	Coffee-break	Paulo Couto (Fab. Tabaco Micaelense)	
10 min	CIRN – University of the Azores		
10 min	Q&A – R. Verpoorte		
10 min	Mónica Moura: CIBIO University of the Azores		
10 min	Q&A – R. Verpoorte		
10 min	Maria João Teixeira Pereira: CIBIO University of the Azores “In vitro plant production of Azorean endemic species for: habitat restoration, fruit production and species conservation”		
10 min	Q&A – R. Verpoorte		
10 min	Violante Medeiros: INOVA “Cultivation of the Azorean pinneaples”		
10 min	Q&A – R. Verpoorte		
35 min	Wrap-up by Prof. R. Verpoorte		

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Registration: Mrs. Ana Carolina Amaral [acamaryl@ibba.pt](mailto:acamaryl@ibba.pt)



Time	Event	Participants	Place
12:30 – 13:30	Lunch		Univ. Azores - Campus Ponta Delgada
14:00 – 15:00	Visit to university labs	Restricted participation	Fundação Gaspar Frutuosos Microalgae Pilot Plant –
15:00 – 15:15	walk to Microalgae Pilot Plant		
15:15 – 15:45	Visit to Microalgae Pilot Plant	Restricted participation	INOVA (Ponta Delgada)
15:45 – 16:00	walk to INOVA (Ponta Delgada)		
16:00 – 16:30	Visit to INOVA (Ponta Delgada)		
16:30 – 17:00	transport to DRCTC - coffee break		
17:00 – 17:30	Meeting with Regional Director of Science & Technology		
17:30 – 18:30	Videoconference Associates + Directors + Scientific Coordinating Committee		
18:30 – 19:00	Videoconference Associates + Directors	DRCTC	