LIFE +
Environment Policy & Governance

ANNEX B.3.4

Deliverables B.3: Technical report on the large quantity production of an EO originated from the industrial by-products of*Citrus sinensis*, selected for the larvicidal pilot scale experimentations

June 2015

Deadline of deliverable: 31/03/2015 (extended due to limited seasonal availability of the required row material)

LIFE CONOPS (LIFE12 ENV / GR / 000466)

The **LIFE CONOPS** project "Development & demonstration of management plans against - the climate change enhanced - invasive mosquitoes in S. Europe" (LIFE12 ENV/GR/000466) is co-funded by the EU Environmental Funding Programme **LIFE+ Environment Policy and Governance**.

Implementation period: 1.7.2013 until 31.12.2017

Project budget: Total budget: 2,989,314 €

EU financial contribution: 1,480,656 €

LIFE CONOPS' Participating Beneficiaries:

ΜΠΕΝΑΚΕΙΟ ΦΥΤΟΠΑΘΟΛΟΓΙΚΟ ΙΝΣΤΙΤΟΥΤΟ	**Benaki Phytopathological Institute (Coordinating Beneficiary)**
	Agricultural University of Athens
SERVIZIO SANITARIO REGIONALE EMILIA-ROMAGNA Azienda Unità Sanitaria Locale di Cesena	**Azienda Sanitaria Locale Cesena**
SERVIZIO SANITARIO REGIONALE EMILIA-ROMAGNA Azienda Unità Sanitaria Locale di Ravenna	**Azienda Unità Sanitaria Locale Ravenna**
CENTRO agricoltura ambiente "Giorgio Nicoli"	**Centro Agricoltura Ambiente "G.NICOLI" S.R.L.**
DEMOKRITOS NATIONAL CENTER FOR SCIENTIFIC RESEARCH	**NCSR Demokritos**
ONEX	**ONEX S.A.**
RegioneEmiliaRomagna SERVIZIO SANITARIO REGIONALE EMILIA-ROMAGNA Azienda Unità Sanitaria Locale di Ravenna	**Regione Emilia-Romagna Public Health Service**
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This deliverable was implemented in the terms Action B.3 and concerns the: Technical report for the large quantity production of the EO originated from industrial by-products *Citrus sinensis*, selected for the larvicidal pilot scale experimentation, which will be implemented in the framework of LIFE CONOPS PROJECT.

The scientific team involved in the implementation of Action B.3 and the production of current report is composed by:

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SUMMARY

BACKGROUND: Main objective of this action concerns the large scale production of novel, environmentally sound and easily biodegradable EOs of natural origin that will be incorporated in pilot scale experiments for the efficient control of mosquito populations, diminishing the spread of their corresponding vector diseases. In the terms of Action B3 implementation, we have already selected among the various EOs obtained from six *Citrus* sp. fruits and industrial by-products, the EO **C 15** which is originated from the processed industrial by-products of *Citrus sinensis* as the most suitable for the implementation of the larvicidal pilot scale experiments. Thus, present report refers to the methodologies implemented for the pilot scale isolation of *Citrus cinensis* EO.

RESULTS: 45 mL of industrial by-products from the juice making process of *Citrus sinensis* were sampled from CHB industry (Nafplion, Greece) and subjected to hydro-distillation to afford the respective EO with the desired characteristics (chemical composition) for the pilot scale experiment.

CONCLUSION: A sum of 30 mL of EO (**C 15)** was obtained (66.67% yield) from the juice making process by-products of *Citrus sinensis* and delivered for the implementation of Action B-6 of the project.