



5th Call for STSM-Applications COST Action FA1205: AQUAGAMETE –

Name: Inmaculada Rasines Pérez

STSM Reference: COST-STSM-ECOST-STSM-FA1205-070315-052753

Host institution: Institute of Animal Reproduction and Food Research Polish Academy of Sciences, Olsztyn, Poland

Period: 07/03/2015 to 29/03/2015

Project proposal: Training in the air spawning technique and sperm cryopreservation

Host: Dr. Radoslaw Kowalski

STSM Scientific Report

During my stay in the Institute of Animal Reproduction and Food Research, Olsztyn, Poland I had the opportunity to get familiar with the pneumatic method use for stripping salmonid fish, pike and sturgeons. This method, developed in the project PNEUFISH, attempts to eliminate egg damage in the spawning procedure. I visited four fish farms and I learnt the specific parameters (air pressure, air flow, needle diameter and type of gas) that have to be controlled to obtain a good survival rate and efficiency with three species: *Oncorhynchus mykiss*, *Esox lucius*, and *Acipenser ruthenus*.

I was able to know the CASA system CRISMAS, used for the evaluation of sperm motility and the protocol for the activation of sperm. I could participate in several experiments about cryopreservation of sperm of *O. mykiss* and *E. lucius* using an extender composed of methanol, a sugar and K^+ .

1. In the first experiment, semen samples of *O. mykiss* were used to establish the best concentration of trehalose (180, 200 or 220 mM), the best sugar (trehalose or glucose), and the best concentration of methanol (8% or 12%).

2. In the second experiment, diluted semen of *O. mykiss* kept in a fridge for 96 hours were cryopreserved in final dilution 1:10, 1:12 or 1:14 in a 200 mM trehalose or 200 mM Glucose, 10% methanol and 40 mM HCl extender.

3. In the third experiment semen of *E. lucius* undiluted or diluted in 175mM glucose or trehalose, 10% methanol, 40mM KCl and 20mM tris were used for artificial fertilization and criopreservation.

Also I could learn the protocol for obtaining viable hybrid between *O. mykiss* and *Salvelinus alpinus*.

This STSM encourage me to work in improving the quality of sperm as well as it has provided me with new tools for develop cryopreservation methods for *Solea senegalensis*.

Confirmation by the host institution of the successful completion of the STSM

Dr. Radoslaw Kowalski certifies that Dra. Inmaculada Rasines Pérez (Spanish Institute of Oceanography) has completed a Short-Term Scientific Mission awarded by the COST Action FA1205 on March 7-29, 2015.



Host: Radoslaw Kowalski



Applicant: Inmaculada Rasines