
IMAGE

Innovative Management of Animal Genetic Resources

Grant Agreement Number: 677353

Horizon 2020 FRAMEWORK PROGRAMME

TOPIC: MANAGEMENT AND SUSTAINABLE USE OF GENETIC RESOURCES

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DELIVERABLE D7.7

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Abstract: Capacity building in conservation of genetic resources as well as in genebank management is one of the aims of IMAGE. In this framework, IMAGE experts are working with collaborators in third countries in order to develop post-graduate training events. In October (1-6) a six-day postgraduate course was organized in collaboration with local partners (AGROSAVIA) in Bogotá, Colombia. The course lecturers were IMAGE experts as well as local researchers.

Due date of deliverable: **M30**

Actual submission date: **M33**

Start date of the project: March 1st, 2016

Duration: 48 months

Organisation name of lead contractor: ULISBOA

Contributors: AGROSAVIA, ULISBOA, UCM, INRA, FAO

Dissemination level: **PU**

Revision N°: **V1**

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Executive Summary

<p>Background</p>	<p>T7.7 Third countries' capacity building: T7.7 is aimed at building third countries' capacity through seminars, exchange of procedures, visiting scientists, and training of post-graduate students.</p>
<p>Objectives</p>	<p>Organization of a post-graduate training course in Colombia, with the aim of building competences in the field of conservation and management of animal genetic resources and disseminating the goals of IMAGE project. Furthermore, this event allowed organizing a practical workshop focusing on reproductive technologies for pig production.</p>
<p>Methods</p>	<p>IMAGE experts presented lectures and practical lab activities. The lectures were also streamed live to researchers located in different locations in Argentina.</p>
<p>Results & implications</p>	<p>The post-graduate course that took place in Bogotá, Colombia, 1-6 October 2018 was organized at AGROSAVIA facilities (Centro de Investigación Tibaitata). The event gathered 40 researchers from South America, of which 33 were from Colombia and 7 from Argentina (participating by live streaming). Video capture of the course was also accomplished and is currently being edited. This event allowed the improvement of competences of researchers in this field of knowledge. During the course many participants succeeded in applying the acquired knowledge to their research and presented their projects.</p>

Program of Post-graduate training course organized in Colombia

Postgraduate course “International course in management and handling of animal genetic resources and germplasm banks”

Aim: This course aimed at strengthening capacity building for managing and conservation of animal genetic resources. The course provided lectures on characterization of Animal Genetic Resources, conservation genetics, databases for genetic resources, importance of Genebanks and of reproduction technologies in conservation programs.

Target: The course was attended by 40 researchers from South America (33 from Colombia, 7 from Argentina). Furthermore, the course was offered by live streaming to Argentina, allowing the participation of 7 researchers located in different parts of the country.

Results: The course was very successful in engaging researchers regarding the need and importance of managing and conserving local animal genetic resources. During the course all participants developed a project based on their own research, and the results were presented during day 5 of the course. The presentations were recorded and the video is available at the IMAGE website as well as the list of presented projects.

<http://www.imageh2020.eu/conteudo.php?idm=34&lang=en>

http://www.imageh2020.eu/Alunos_presentations.pdf

The last day of the course was fully dedicated to a practical session on artificial insemination in pigs, and all participants travelled to an experimental station in Villavicencio (about 120 km from Bogotá) where “Casco de Mula” pigs are kept. This part of the course was led by Dr. Angel Poto (Instituto Murciano de Investigación y Desarrollo Agrario e Alimentario, Murcia, Spain).

The evaluation of the course was extremely positive, and it is strongly expected that additional training activities can be organized in the future.

Participants final projects

Pedigree analysis of the Criollo San Pedreño pig breed

Alejandra Martinez
Ricardo Campo
Yesid Abuabara
Henry Velásquez

Pedigree analysis of Romosinuano cattle

Diego Bejarano
Omar Rodriguez
Yair Rueda

Pedigree analysis of a Romosinuano cattle herd in Armero Tolima

Juana Soledad Moncaleano
Martha Gutierrez
Miguel Ángel Peña
Jaime Anibal Rosero

Genetic diversity in four Colombian cattle breeds assessed with microsatellites

Carlos Lucero
Rafael Suárez
Byron Hernandez
Estefania Ramos

Genetic characterization with microsatellites of two Creole sheep breeds in Colombia

Wilson Alberto Loza V.
Hugo Rodolfo Jimenez S.
David Quintero Bastidas

Analyses of genetic diversity in different cattle breeds using SNP chips

Yolanda Gómez V.
Jhon Jacobo Cañas
Naudin Hurtado
William Burgos

Genomic characterization of the Simmental breed in Colombia

Carmen Celis
Stephanie Angel
Boria Sepúlveda

Genetic diversity in Creole pig breeds from Argentina assessed with microsatellites

Juan Sebastian Capello Villada

Nélida Mabel Monzón

Verónica Natalia Morales

Maria Antónia Revidatti

Sabina Ruiz

Emilse Rosalia Tejerina

Course programme

Dates: 1-6 October 2018

Hour: 08.00 – 16.30

Venue: Centro de Investigación Tibaitata, and Centro de Investigación de Villavicencio (AGROSAVIA, Colombia)

Teachers:

Luís Telo da Gama. Faculdade de Medicina Veterinária, Universidade de Lisboa, Lisbon Portugal.

Michel Naves. INRA - Animal Production unit of the French West Indies research center, Antilles-Guyanne, France

Oscar Cortes. Universidad Complutense de Madrid, Madrid, Spain.

Carlos Edmundo Lucero Casanova. Agrosavia, Colombia.

Paul Boettcher. Animal Production Officer, Animal Genetic Resources Branch, Food and Agriculture organization of the United Nations (FAO).

Ángel Poto. Instituto Murciano de Investigación y Desarrollo Agrario e Alimentario, Murcia, Spain.

Programme

Monday , October 1

Hour	Title	Teacher
8:00	Registration	AGROSAVIA - Circo
8:45		
8:45	Presentation - Director C.I. Tibaitatá	Carlos Alberto Herrera H
9:00		Carolina González Almarío Hugo Rodolfo Jiménez
9:00	Group introduction and presentation	Rodrigo Alfredo Martínez
9:30		Carlos Edmundo Lucero Casanova
9:30	IMAGE project	Carlos Edmundo Lucero C.
10:10	Presentation of course program; Installation of required software and databases	Oscar Cortes. Luís Telo de Gama. Michel Naves
10:30	What is genetic diversity and why it is important	Luís Telo de Gama.
12:15	Characterization of genetic diversity	Oscar Cortes Michel Naves
12:15 – 13:30 Lunch		
13:30	Summary of basic concepts of Molecular Genetics and their relevance in the application to the conservation and characterization of animal genetic resources	Oscar Cortez
15:00		
- 15:00 – 15:15 Coffee Break		
15:15	Summary of basic concepts of Population Genetics applied to the conservation and characterization of animal genetic resources	Oscar Cortez
16:30		Luís Telo da Gama

Tuesday, October 2

Hour	Title	Teacher
8:00	Parentage testing	Luís Telo da Gama
10:00	Organization and construction of pedigree data	
10.00 – 10.15 Coffee Break		
10:15	Characterization of population structure (Lecture)	Luís Telo da Gama
12:00		
12:00 – 13:30 – Lunch		
13:30	Characterization of population structure (Practical)	Luís Telo da Gama
15:00		
15:00 – 15:15 Break		
15:15	Molecular characterization I (Lecture)	Luís Telo da Gama
16:30		

Wednesday, October 3

Hora	Tema	teacher
8:00	Molecular characterization I (Practical)	Oscar Cortes.
10:00		
- 10.00 – 10.15 Coffee Break		
10:15	Molecular characterization II (Lecture)	Luís Telo da Gama
12:00		
- 12:00 – 13:30 Lunch		
13:30	Molecular characterization II (Practical)	Oscar Cortes
15:00		
15:00 – 15:15 Coffee Break		
15:00	Genomic characterization I (Lecture)	Oscar Cortes
16:30		

Thursday, October 4

Hour	Title	Teacher
8:00	Genomic characterization II (Lecture)	Oscar Cortes
10:00	- 10.00 – 10.15 Coffee Break	
10:15 12:00	Genomic characterization (Practicals)	Oscar Cortes Michel Naves
- 12:00 – 13:30 Lunch		
13:30	Development of participants' projects	Michel Naves
15:00	- 15:00 – 15:15 Coffee Break	
15:00 16:30	Landscape genomics	Luís Telo de Gama

Friday 5, October 5

Hour	Title	Teacher
8:00	Conservation of AnGR	Michel Naves
9:00	- 10.00 – 10.15 Coffee Break	
9:00 10:00	FAO mission Examples from conservation programs developed by INRA, France.	Paul Boettcher (by Skype) Michel Naves
10:15	- 10.00 – 10.15 Coffee Break	
11:00	- 10.00 – 10.15 Coffee Break	
11:05	- 10.00 – 10.15 Coffee Break	
12:30	- 10.00 – 10.15 Coffee Break	
12:40	- 10.00 – 10.15 Coffee Break	
13:00	- 10.00 – 10.15 Coffee Break	
15:00	- 10.00 – 10.15 Coffee Break	
15:00	Travel to Villavicencio	

Saturday 6, October 6 (Practicals of reproductive technologies in pig) - Villavicencio

Hour	Title	Teacher
8:00	Technologies for porcine semen (Lecture)	Ángel Poto
10:00	- 10.00 - 10:15 Coffee Break	
10:15	Technologies for porcine semen (Practical)	Ángel Poto
12:00	12:00 – 13:00 Lunch	
13:00	Technologies for porcine semen (Practical)	Ángel Poto
15:45	16:00 Closing session	