

**Modelling, Measurement and Mitigation of the Environmental Impact of Livestock Production Systems
Zaragoza (Spain), 12-16 December 2022**

Hour	Monday 12	Tuesday 13	Wednesday 14	Thursday 15	Friday 16
9:00-10:00					
10:00-11:00		0.1. Discussion based on the situation, perspectives and challenges in participants' countries F. Estellés	Practical work: 3.2.4.1. Estimating and comparing emissions at farm scale using models K. Klumpp	Practical work: 3.2.4.2. Estimating and compare emissions at System-National-Regional level (GLEAM-i) A. Mottet, F Estellés	Technical visit: 3.3.5. Measuring devices at field, animal and farm scale J. Álvaro – F. Estellés
11:00-12:00					
12:00-13:20	Lunch				
13:20-14:20	0. Welcome and Introduction F. Estellés	3.1. Modelling or measuring? F. Estellés	3.3.1.-3.3.2. Measuring nutrient fluxes at field and farm scale K. Klumpp	4.1 - 4.2 - 4.3 Mitigation options. Technical and economic feasibility Feed – Animal – Manure To be confirmed	5. Economic implications and decision making at farm scale To be confirmed
14:20-15:20	1. Livestock and climate change, sector trends, contribution to C, N and P emissions and mitigation strategies at global and regional levels GHG. Impacts and Emission sources in Livestock production systems A. del Prado	3.2.1 Models to estimate emissions in livestock production systems at farm scale K. Klumpp			
15:20-15:30	Break				
15:30-16:30	2. C, N and P fluxes in livestock systems A. del Prado	3.2.2. Models to estimate emissions in livestock production systems at System-National-Regional A. Mottet	3.3.3. - 3.3.4. Measuring nutrient fluxes at animal and manure scale To be confirmed	Practical work: 4.5. Evaluate mitigation options at farm levels using models F. Estellés	4.4. Mitigation options. Technical and economic feasibility System F. Estellés, A. Mottet
16:30-17:30		3.2.3. Life Cycle Assessment (LCA) approach G. Pardo			