QUESTIONS FOR FERNANDO ESTELLES, WP LEADER, WP 4

WP4 – Re-Managing at farm level for livestock resilience

-Introduce yourself, your professional background and your role within the Re-Livestock Project

I am Fernando Estellés, an Agricultural Engineer with a PhD from Universitat Politècnica de València in Valencia, Spain. Currently, I serve as an Associate Professor at the same university. My group oversees WP4, where we seek management strategies to enhance livestock resilience. On the experimental front, we focus on indoor pig and cattle housing, exploring alternative management approaches and optimizing manure management strategies. Furthermore, we collaborate with other project partners on optimizing agroforestry systems. A distinctive aspect of our WP4 work is leveraging massive data from precision livestock farming systems to devise innovative management solutions.

-Describe Re-livestock in 1 sentence

Re-livestock is a huge challenge aimed to re-desing livestock production systems for the future.

-A background explaining why farm management is important for increasing resilience

Farm management practices are primarily determined by farmers, making the adoption of new strategies independent of external stakeholders. This autonomy offers significant practical advantages. By enhancing management and housing design at the farm level, it's possible to bolster resiliency against future climatic and social challenges. Consequently, it's essential to identify the most effective alternatives across different production systems, ensuring resilient and efficient livestock production.

-You are testing farm management innovations for resilience. Could you describe them?

Within this work package, we're testing various innovations. In indoor pig systems, our focus is on reducing feed wastage and enhancing feed-use efficiency. We're also investigating solutions to mitigate heat stress and manage gaseous emissions on farms. For cattle, we're assessing methods to alleviate heat stress, such as

utilizing shaded areas and showers. Additionally, we're probing early interventions in calf management, both socially and in terms of feeding. For both pig and cattle systems, our aim is to pinpoint optimal manure management practices to minimize nutrient losses. Furthermore, we're evaluating animal and feeding management in outdoor production systems. The goal here is to promote carbon sequestration, fine-tune grazing management, and identify novel forages suitable for livestock.

-What activities you have already carried out / you will carry out in your WP (very summarized and in a plain language, not excessively technical if possible; in case there are many things, you can select and say, for example…)

As of now, our colleagues from Aarhus University have examined the performance of fattening pigs provided access to outdoor forage areas. Meanwhile, in Valencia, we've evaluated various showering strategies to alleviate heat stress in dairy cows. In collaboration with WP2, we are also exploring potential new forages for livestock feed. This work package still has much in store, including initiatives related to grazing management, the use of shading for dairy cattle, and addressing feed wastage in pigs, among others.

-What will be the outcomes and results you expect to obtain from your WP? (these can be technical or other type of innovations, advance in methods and knowledge, recommendations for practices or policies, insights to what may happen in the future so as to guide policies…; just be again concise and free to explain).

We anticipate results on several fronts: Firstly, we aim to deepen our understanding of the most resilient management practices for future livestock production within a theoretical framework. Furthermore, upon project completion, we will offer farmers comprehensive recommendations to enhance both the efficiency and resilience of their operations. Ultimately, our intention is to shed light on the future direction of livestock production systems.

-What do you think may be the main benefits of Re-Livestock for the sector and for society in general (linking to the WP challenge/s)

In my view, Re-Livestock will pave the way for livestock production to transition towards a sector that is both low-impact and more resilient. Farmers will gain insights into optimized management practices, equipping them to produce safe food products amidst future challenges.