

Evaluación del bien estar animal a traves del control del peso vivo: Proyecto Tech Care

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FORO OVINO –VALLADOLID
16 DE JUNIO 2025

800 pastores que dan vida
a 400 pueblos
y 1.000.000 de hectáreas



Integrating innovative **TECH**nologies along the value Chain
to improve small ruminant welf**ARE** management

<https://techcare-project.eu/>

**Integración de tecnologías
innovadoras para mejorar el bienestar
de pequeños rumiantes a lo largo de
su cadena de valor**



European
Commission

Horizon 2020
European Union funding
for Research & Innovation

*Proyecto financiado por el programa H2020 de investigación e innovación de la Unión Europea
(Contrato No 862050)*

Oviaragón

- TechCare** → 9 países participantes
- 19 instituciones
- Ovino de carne , leche y caprino

Objetivos:

- Trabajar en toda la cadena de valor
- Identificar indicadores de bien estar para cada especie y sistema de producción
- Localizar tecnología adecuada
- Generar algoritmos para alarmas tempranas (BD)
- Testar en granjas piloto
- **Testar en granjas comerciales**
- Modelo de negocio

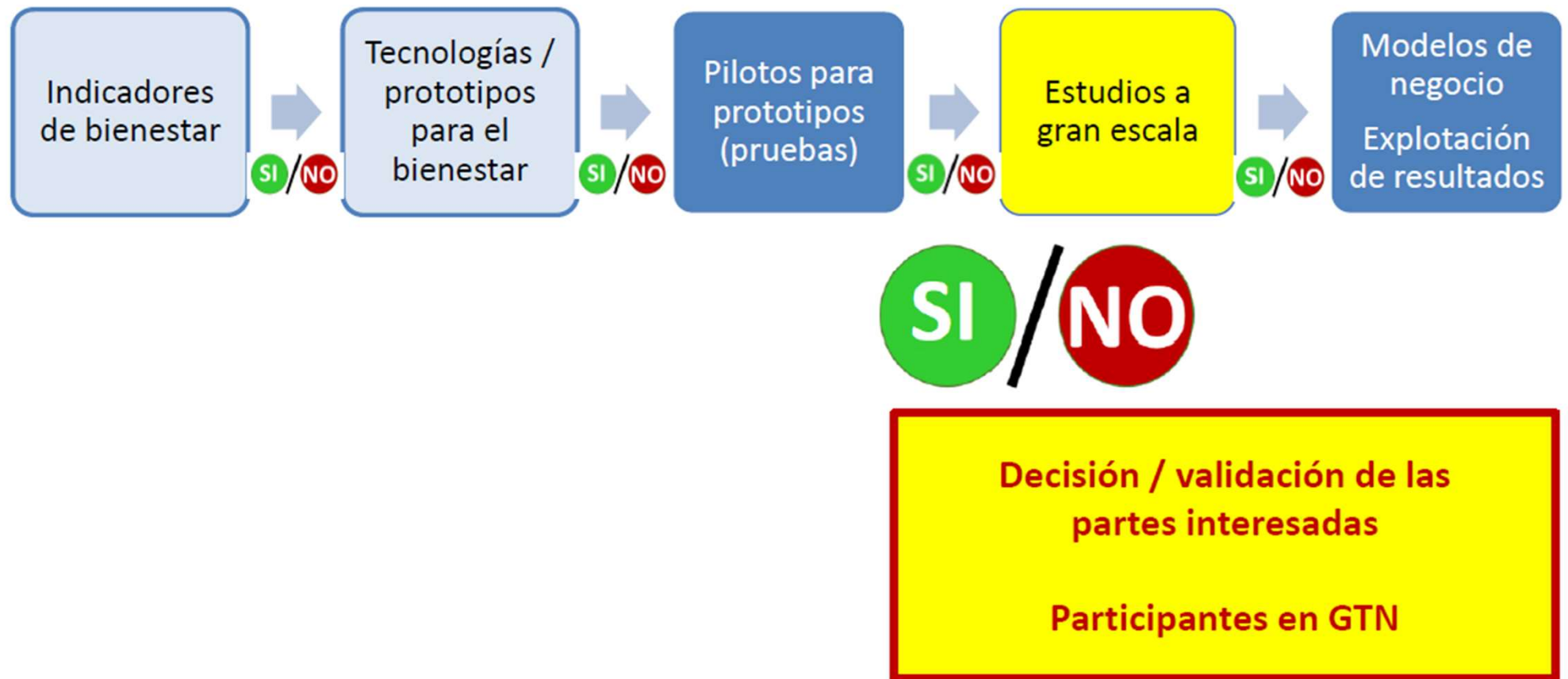
**Testar tecnologías innovadoras prometedoras,
en condiciones reales para VALIDAR**

⇒ la **facilidad de uso** de tecnologías e indicadores

⇒ Definir los **límites y condiciones óptimas de uso** tanto de tecnologías como de indicadores

⇒ determinar el **coste y el beneficio** en términos sociales, de trabajo, de bienestar animal que su implementación aporta al sector.

Validación de etapas en el proyecto TechCare:



ESPAÑA: Resultados GTN1

1) Ovino de carne – Semi-intensivo

ES-OC: Prioridades bienestar (Top 3)

- | | |
|---|--|
| 1 | Problemas nutritivos* (76%) |
| 2 | Condiciones alojamiento y ambiente (52%) |
| 3 | Densidad de animales (48%) |



UE-9 Prioridades bienestar (todos los ovinos)

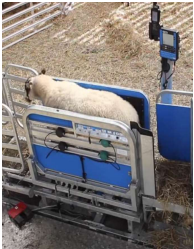
- | | |
|---|-------------------------|
| 1 | Problemas nutritivos |
| 2 | Mamitis |
| 3 | Parásitos digestivos |
| 3 | Cojeras |
| 5 | Parásitos externos |
| 6 | Agua inadecuada |
| 6 | Problemas reproductivos |

BASCULA DE AUTOPESAJE CON
LECTURA DE BOLO RUMINAL



ESTACION METEOROLOGICA Y
SENSORES EXTERNOS E
INTERNOS DE CONTROL
AMBIENTAL



	Tecnología seleccionada	Sistema Product	Nivel de información	Mediciones objeto	Problemas de bien estar	Indicadores de bien estar
	Sensores de control ambiental interior		Rebaño	Riesgos ambientales	• Estrés por calor • Calidad del aire • Calidad de las camas • Enfermedades respiratorias	Ambiental
	Estación Ambiental		Rebaño	Riesgos ambientales	Estrés ambiental (temperatura, viento, lluvia...)	Ambiental
	Báscula de pesaje con lector de bolos ruminales		Individual	Cambios en el peso	• Nutrición (mala/sub) • Mamitis • Parasitosis (int/ext) • Cojeras • Otras enfermedades	Cambio del peso vivo

Ensayo Ovino de carne

Semi extensivo

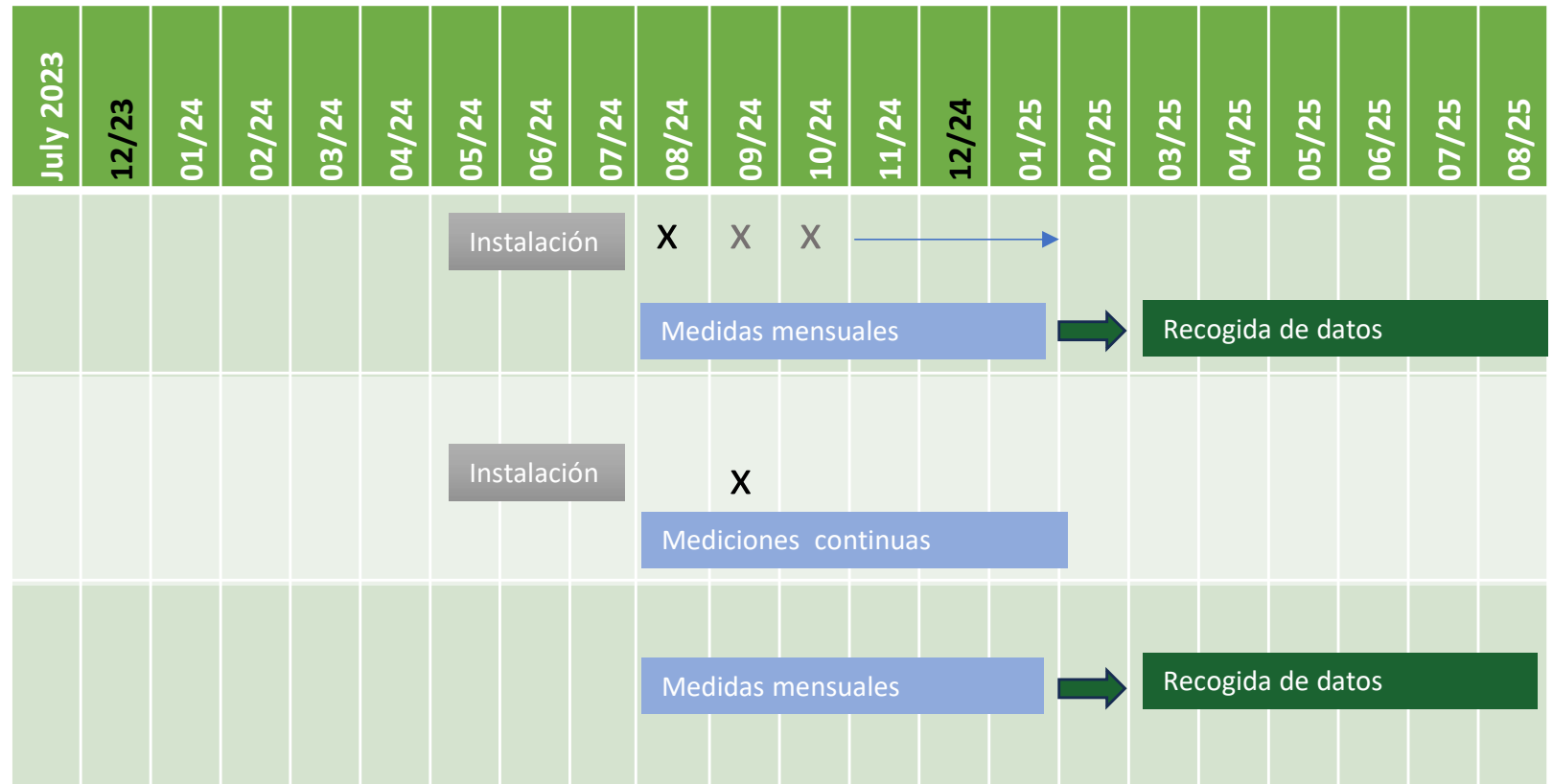
Granja: 900 ovejas Rasa Aragonesa

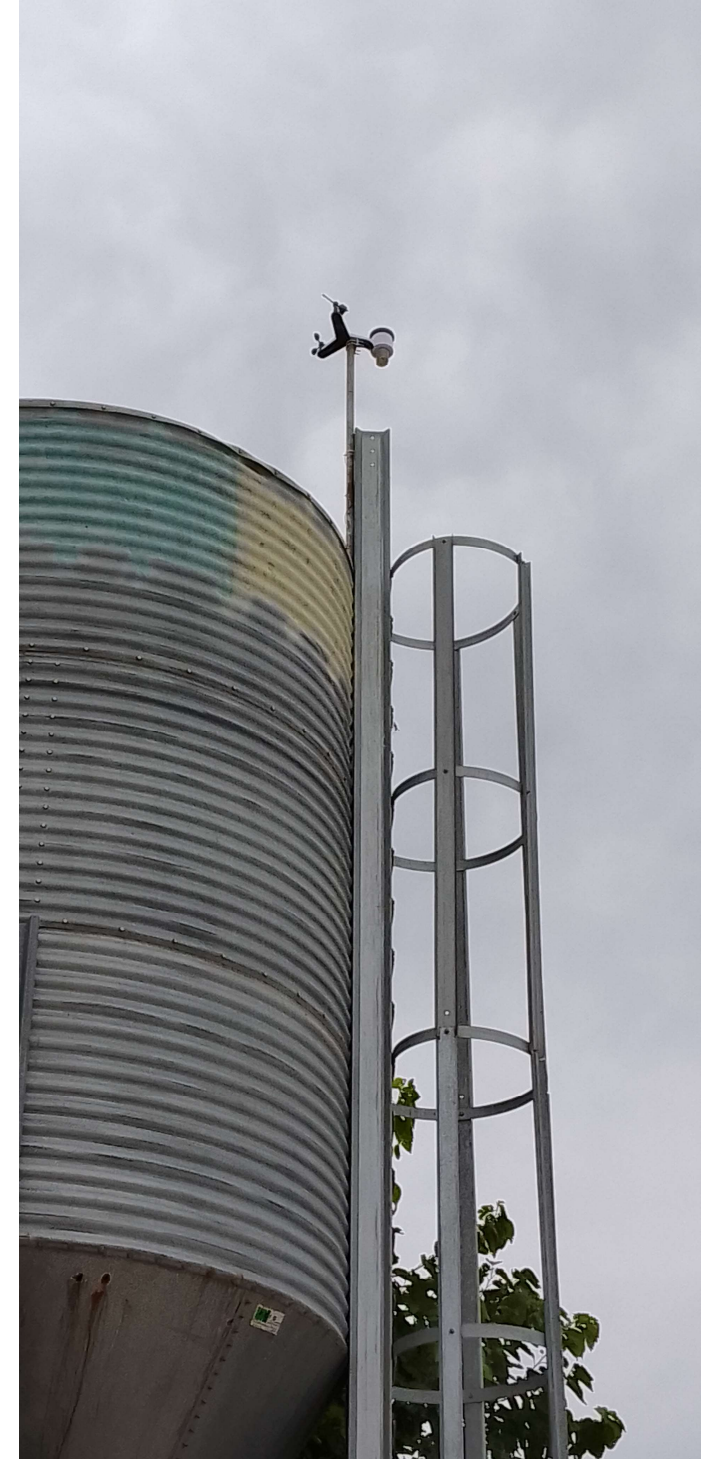
1º lote en estudio
Ovejas adultas y corderas
en CUBRICION
con machos (M1-M6
2025) 447 animales

Báscula de
autopesaje

Estación Amb. Y
sensores
interiores

Evaluación de bien
estar animal





1. INSTALACIÓN
DE SENSORES

2. CONTROL DEL BIEN
ESTAR ANIMAL

3. PESADAS DE
ANIMALES

Evaluación de bien estar:

- Pezuñas
- Respiración
- Lana
- Ubre

Estación M y sensores :

- THI: sensación térmica
- Humedad de camas

Báscula de autopesaje:

- Variaciones de peso

Variables de la granja:

- Edad: corderas y adultas
- Fase productiva
- Sistema de alimentación

Objetivos:

- Alertas :
 - Estrés térmico
 - Enfermedad
 - Mal nutrición
- Minimizar mortalidad y morbilidad

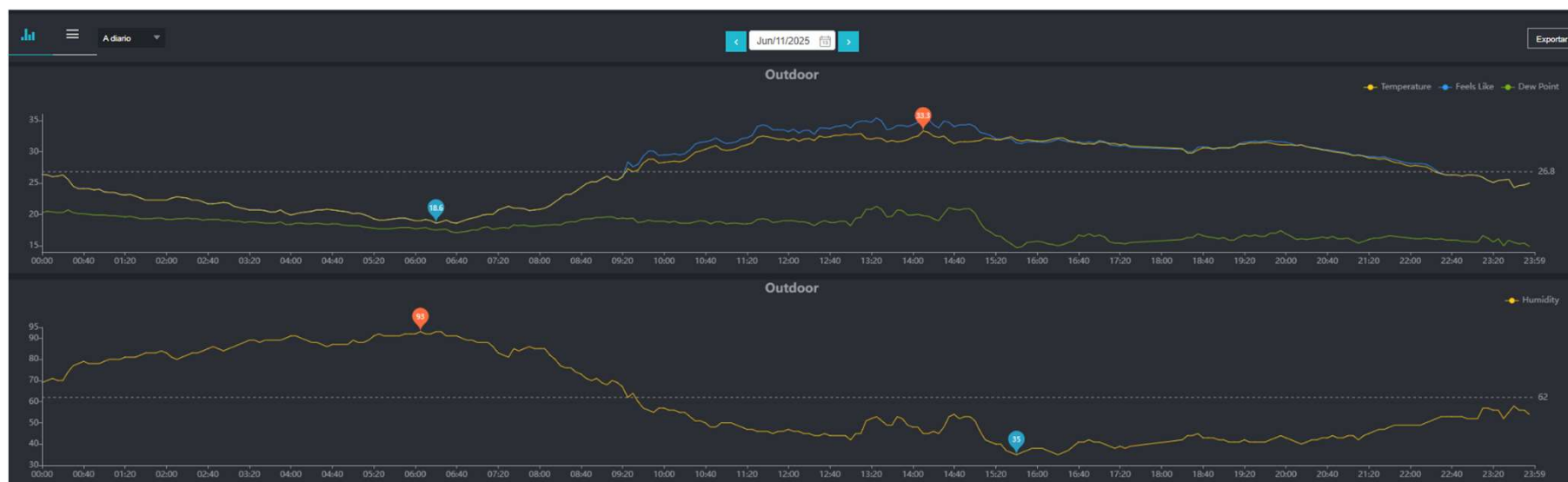
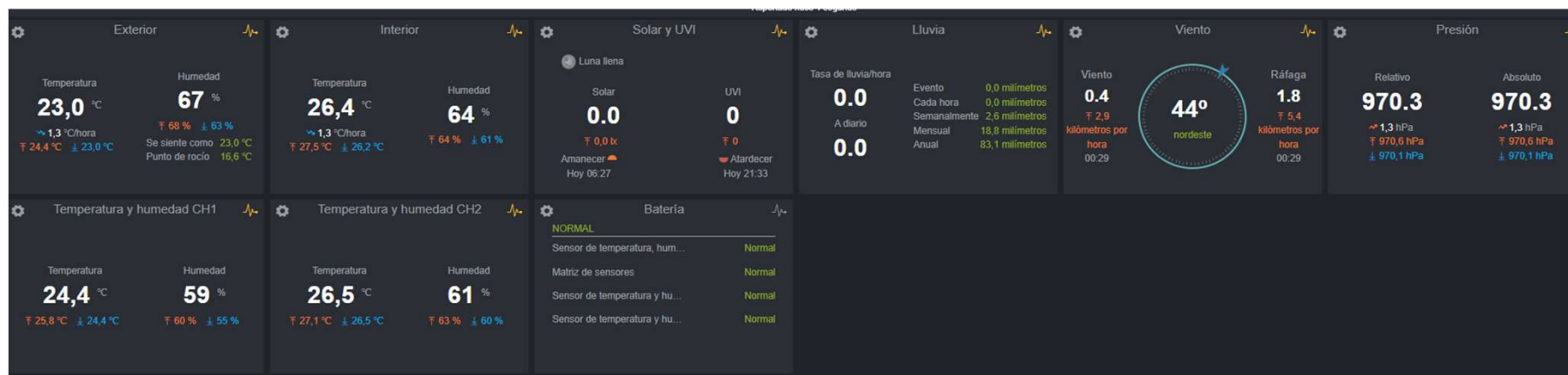


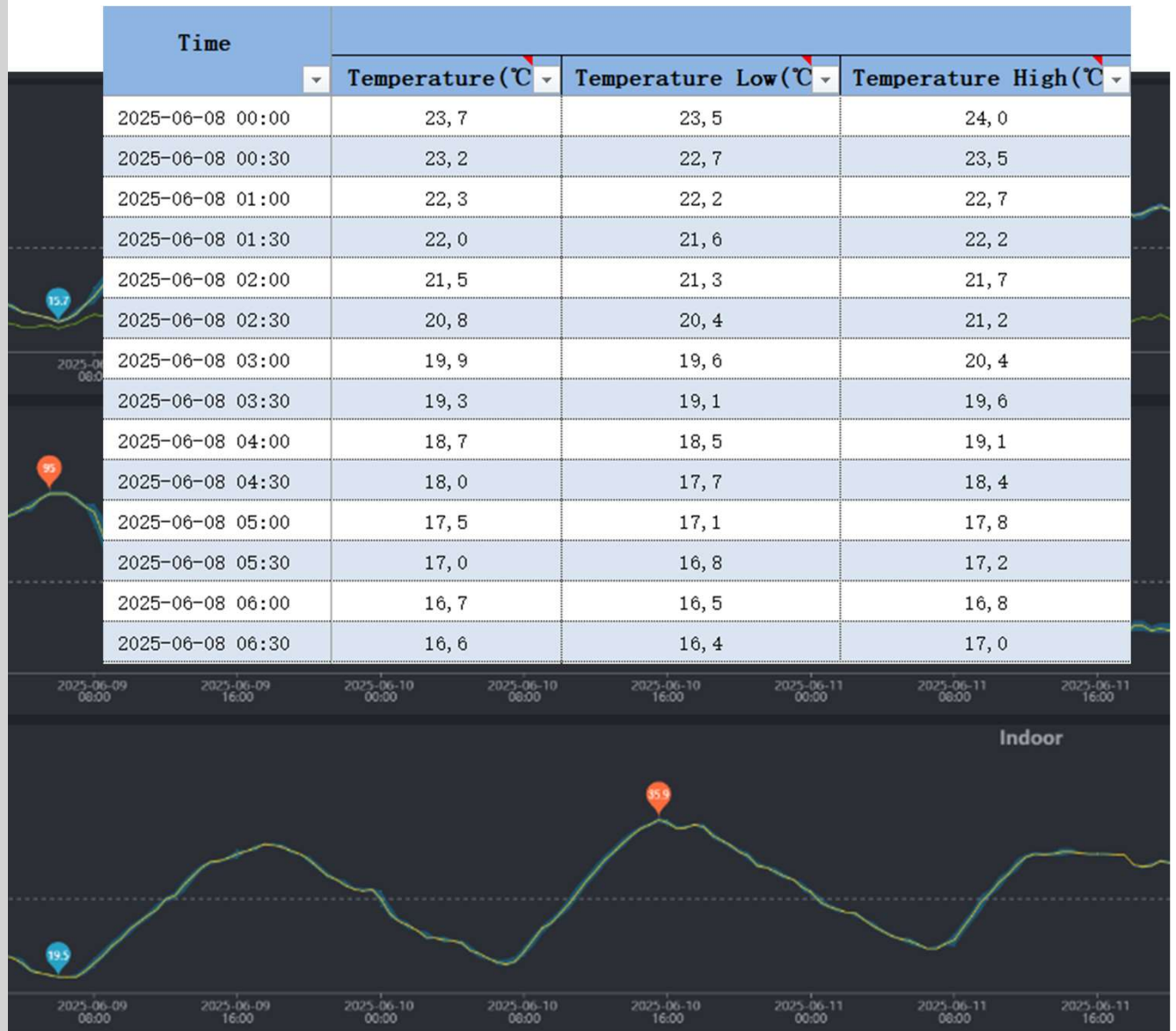
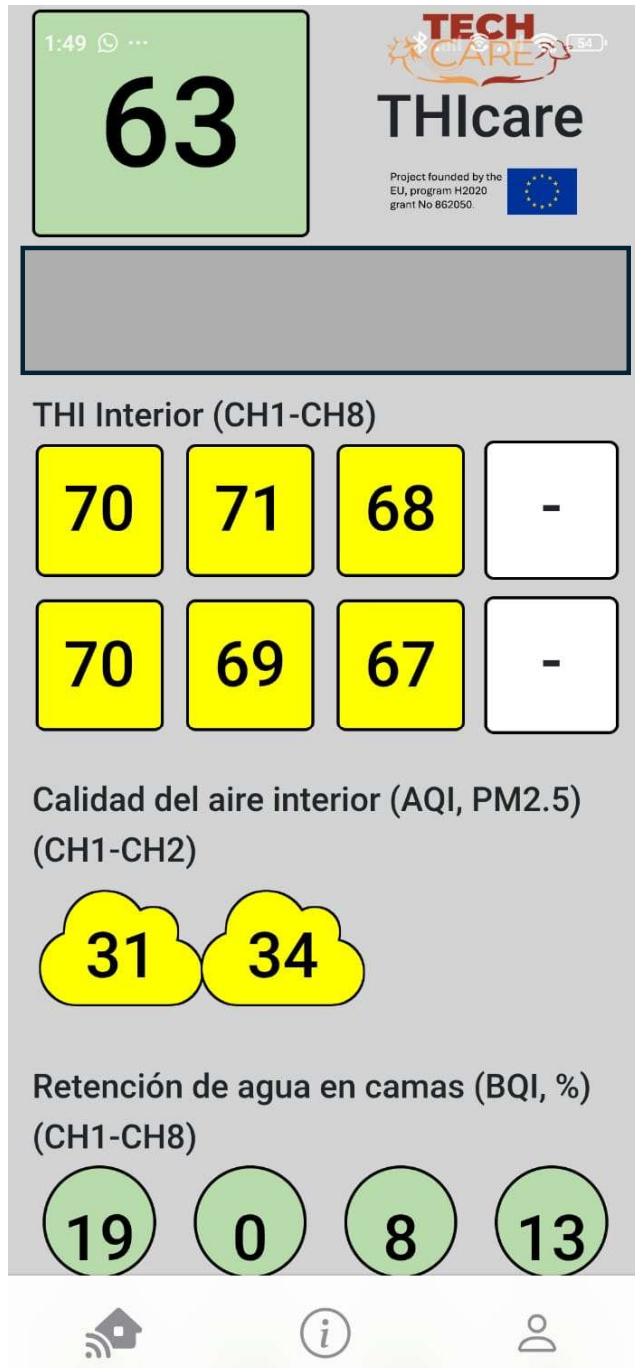


⇒ **Exterior:** Temperatura, humedad, presión atmosférica, fuerza del viento y dirección, pluviometría...

⇒ **Interior:**

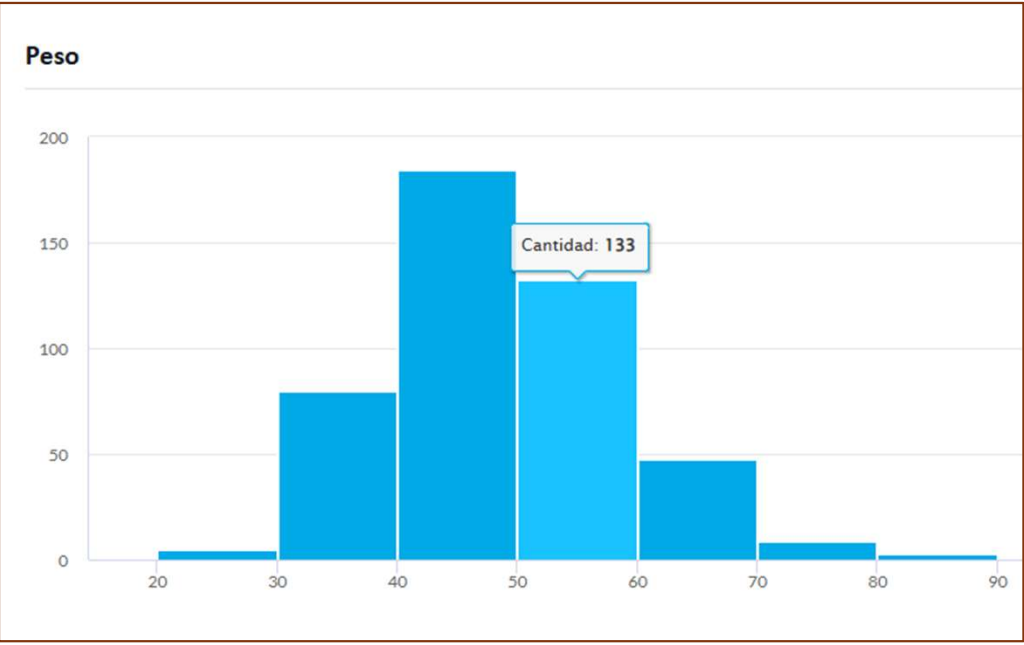
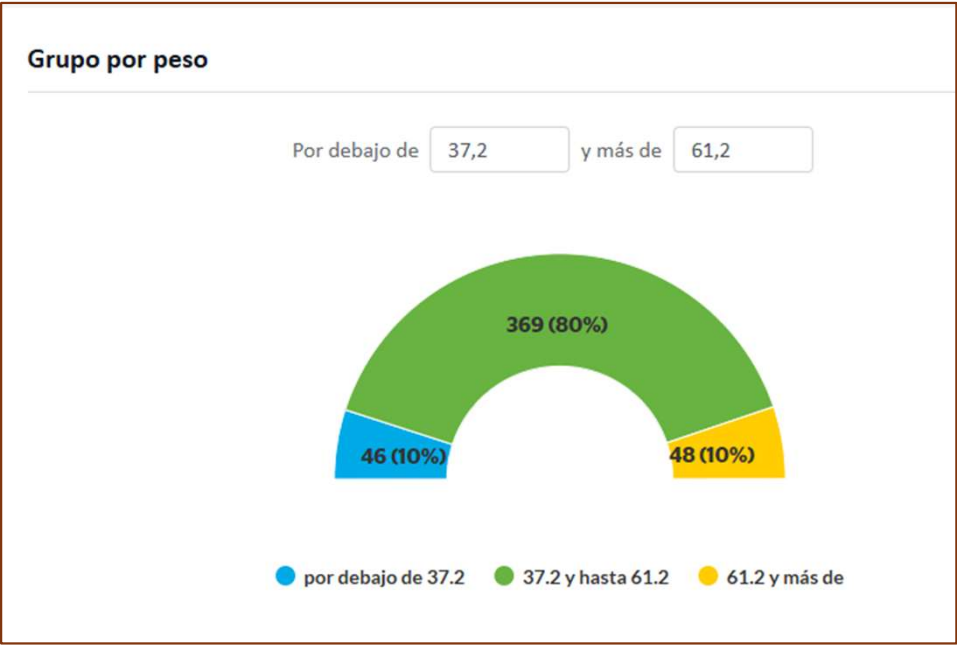
- Temperatura, humedad ambiente
- Humedad de la cama
- Partículas de polvo





TechCare

2- DATOS BIOMÉTRICOS OBTENIDOS



Sesión_025 Grupos: HEMBRAS CUBRICION 0425 (2025)	7 may. 2025	463 Animales	48.8 Peso promedio
Sesión_024 Grupos: HEMBRAS CUBRICION 0425 (2025)	25 abr. 2025	467 Animales	51.5 Peso promedio
Sesión_023 Grupos: HEMBRAS CUBRICION 0425 (2025) , Sesión_023_SIN_IDO (2025)	10 abr. 2025	473 Animales	51.5 Peso promedio

Sesión_025

ResumenAnimales

369 / 463
Animales

48.2
Peso promedio

37.2
Peso mín

61
Peso máx

7 may.
2025

Búsqueda rápida

Peso Igual O Mayor Que 37.2

Peso Por Debajo De 61.2

+ AGREGAR FILTRO

Estado De ActualizaciónCambiar Grupo

ExportarColumna

IDV	IDE	Peso	Raza	Sexo	Clasificación	GDM	Notas sobre el animal	Recalc Clasificación	Características	GDM total	GPV	GPV total	Días	Total de días	PAF	Fecha	Hora	IV	CAB_FecNac	
37881	724 021001937881	40.2		Hembra	-2 ()	-0.12				0.04	-1.4	8.7	12	243		7 may. 2025	10:29:53	37881	22-Dec-23	F
52188	724 021000952188	51.4		Hembra	-2 ()	-0.12				0	-1.4	-0.1	12	27		7 may. 2025	10:30:28	52188	1-May-18	F
85498	724 021001185498	45.2		Hembra	-2 ()	-0.23				-0.05	-2.8	-1.3	12	27		7 may. 2025	10:31:05	85498	15-Feb-21	F
92103	724 021001892103	51.8		Hembra	-2 ()	-0.32				-0.08	-3.8	-2.2	12	27		7 may. 2025	10:31:14	92103	13-Dec-22	F
92240	724 021001892240	46.6		Hembra	-2 ()	0.03				-0.03	0.4	-0.9	12	27		7 may. 2025	10:31:21	92240	22-Feb-23	F
26304	724 021001126304	51.4		Hembra	-2 ()	-0.05				-0.02	-0.6	-0.6	12	27		7 may. 2025	10:31:37	26304	22-Apr-20	F
38034	724 021001938034	41.2		Hembra	-2 ()	-0.1				0.03	-1.2	6.7	12	243		7 may. 2025	10:31:45	38034	25-Dec-23	F
5383	724 021001805383	44.2		Hembra	-2 ()	-0.1				-0.09	-1.2	-2.3	12	27		7 may. 2025	10:34:03	05383	11-Oct-20	F



Meat sheep welfare assessment measures



Integrating innovative TECHnologies along the value Chain
to improve small ruminant welfare management

Meat Sheep Welfare Assessment Measures

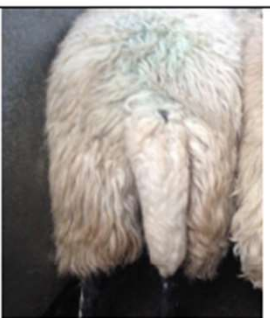
Table 1. Scores for assessing body condition.

Score	Russell BCS range	Diagram	Descriptor
Emaciated (0)	Less than 1.0		All parts of the spine can be easily felt with little or no pressure, fingers can be easily inserted under the transverse processes. There is no fat cover, and very little muscle tissue can be distinguished.
Thin (1)	Between 1.0 and 2.0		The horizontal and vertical processes can be easily felt without pressure, fingers can pass under the ends of the transverse processes. There is a small amount of muscle

Table 2. Scores for lameness assessment

Score	Descriptor
Score 0	Movement is smooth, weight is borne equally on all 4 feet with no shortening of stride. Some minor head nodding is allowed if the animal is walking on an uneven surface (field observations).
Score 1	Clear shortening of the stride with obvious head nodding or flicking as the affected limb touches the ground
Score 2	Very obvious head nodding and not weight-bearing on the affected limb whilst moving, or lame on more than one limb. Foot may be held up whilst standing (hindlimb lameness) or may be seen grazing on knees (forelimb lameness) in field assessment.
Score 3	Recumbent or reluctant to stand or move. In field assessments the sheep may not be able to stand or unable to move away from approach. The sheep should not be forced to stand if clearly recumbent.

Table 3. Scores for assessing faecal soiling.

Score (field)	Score (handled)	Photo
Score 0	Score 0	
Score 0*	Score 1	



Meat Sheep Welfare Assessment Measures

Table 4. Scores and descriptors for ewe-lamb proximity.

Score	Descriptor
0	Ewe and lamb are in very close contact – either touch length of each other. Ewes and lambs are usually per at this point or engaged in social interaction.
1	Ewe and lamb are in close contact – lamb is further tl within approximately 10 m of the ewe. Ewes and lam the same behaviour
2	Ewes and lambs are within the same social group but from the ewe (but generally within 50 m of the ewe.
3	Ewe and lamb are not in the same social group, or gro social group is very dispersed, or lamb cannot be seen

Table 5. Scores and descriptors for field measures of ectoparasites (AWIN).

Indicator	Present	Descriptor	Absent	Descriptor
Irritation	1	Repeated or prolonged scratching/itching with hooves, horns or against pen or paddock fixtures, for 5+ minutes per 20 minutes 	0	No excessive itching or rubbing observed
Fleece condition	1	Loose fleece and shed areas or bald patches, trailing fleece may be present 	0	Sufficient and even fleece cover for breed/time of year; no sign of wool pulls or loss 



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Meat Sheep Welfare Assessment Measures

Table 8. Ethogram of behaviours indicating competition or aggression.

Behaviour	Description
Feeding displacement	Ewe moves away from feeder (trough or ha direct approach of another ewe from behind without physical contact (striking with head shoulders)
Aggression	Ewe strikes another with force with the head ewe's body. This can be direct contact head sideways movements of the head (usually direct). Record incidence made following delivery of

Table 7. AWIN scores for water quality (assessing type of watering point, its functionality, and its cleanliness).

Type of water point			
None No source of water provided	Bucket or trough Any water container requiring manual filling	Automatic drinker Any water container connected to a water network which is filled automatically with use	Natural water source Pond, stream or other water course that is accessible by sheep and contains fresh water
Functional and accessible			
Automatic drinker	Automatic drinker is working properly	Natural water course	Water source is accessible and shows evidence of sheep use
Cleanliness			
Dirty Water points and water dirty. Natural water sources are stagnant and polluted 	Partly dirty Water points dirty or contaminated with rubbish but water appears clean and fresh 	Clean Water points and water clean and fresh. Natural water sources are clean and unpolluted. 	



Meat sheep welfare assessment measures



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Meat Sheep Welfare Assessment Measures

Table 10. Scores for assessing udder and lower limb cleanliness (Roquefort farmers).

Measure	Cleanliness of the			
Description	Udder and legs free of dirt	There are some small stains/dirt	The stains/dirt are extensive but represent less than 50% of the udder and legs	spread over more than 50% of the udder surface and legs but not for thick or any time
Score	0	1	2	3

Table 14. Scores for Mastitis assessment.

Score 0	Normal udder – udder is soft and pliable, no redness or hardness, normal secretions (AWIN 1 st level)
Score 1	One small fibrotic lump or area of hardness can be felt in the mammary tissue, normal secretion
Score 2	More than 1 lump is present, or areas of hardness on one side of the udder, or small lesion (<10 cm at widest part); milk can be normal or purulent (AWIN 2 nd level)
Score 3	Extensive swelling of the udder, lumps or hardness on both sides or larger lump on one side, or lesions >10 cm at widest part. May be abscessed or ruptured. (AWIN 3 rd level)
Score 4	Peracute mastitis: Complete udder involvement with severe inflammation, secretions range from serum-like to purulent, Mammary lymph nodes enlarged, elevated body temperature.

1.- Ubre

2.-Sistema locomotor

3.-Lana

4.- Respiratorio

present = 1; absent = 0).

	Absent (descriptor)
	No lesions, swellings or abrasions
	Hooves

Evaluación de bien estar:

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- Respiración
- Lana
- Ubre

Estación M y sensores :

- THI: sensación térmica
- Humedad de camas

Báscula de autopesaje:

- Variaciones de peso

Variables de la granja:

- Edad: corderas y adultas
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Objetivos:

- Alertas :
 - Estrés térmico
 - Enfermedad
 - Mal nutrición
- Minimizar mortalidad y morbilidad





Oviaragón



12 jun 2025, 21:04:38
Camino de la Estación
22621 Sabinánigo Huesca
España



Gracias por vuestra atención

<https://techcare-project.eu/>

<https://oviaragon.com/blog/>