

Recording of Hoof Trimming Data in Spain

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OUTLINE

- Spanish recording system of claw disorders: I-SAP
- Traits recorded
- Feedback to farmers
- Monitoring routine
- Genetic study

I -SAP

Information of claw health for lameness control and prevention

- 2012 CONAFE:

- ☐ Agreements with trimmers:

- ANKA for developing a regular electronic recording system
 - SERAGRO for information exchange
 - Agreements with individual trimmers

- ☐ Setting National Claw health database

I-SAP

- Recording data relies on an easy and intuitive procedure
- Data recorded during trimming routine
- Trimmer downloads previously farm data



I-SAP

- Friendly PC-tablet application was developed
- Useful information of preliminary proceedings

The screenshot shows the I-SAP application interface. At the top, there's a header bar with a plus icon, a minus icon, a magnifying glass icon, and a search bar containing the text "ES011402492288". Below the header, there's a grid of six small images showing different views of a cow's head, each with a date below it: 05/04/2013, 27/03/2013, 08/02/2013, 20/12/2012, 06/11/2012, and 25/10/2012. A yellow callout box labeled "Previous trims" points to the 27/03/2013 image. Below the grid, there are four larger images showing different views of a cow's head, each with a date below it: 05/04/2013, 27/03/2013, 08/02/2013, and 20/12/2012. A yellow callout box labeled "Claw Select" points to the 05/04/2013 image. To the right of the grid, there's a green box containing animal data. A yellow callout box labeled "Animal Data" points to this box. The data includes: Animal ID (ESPH3102858753), C.I.B. (ES011402492288), Farm Number (01625), Birthday (18/11/2007), Age (5/5), Calving Date (28/05/2012), D.I.M. (346), Calving N° (3), and Operator (ANKA1). At the bottom of the green box, there are three buttons: a red "X" button labeled "Remove diagnosis", a red "X" button labeled "Cancel", and a green checkmark button labeled "Accept".

Previous trims

Animal Data

Animales

ES011402492288

05/04/2013 27/03/2013 08/02/2013 20/12/2012 06/11/2012 25/10/2012

Fore Right

Fore Left

Rear Right

Rear Left

Animal ID ESPH3102858753

C.I.B. ES011402492288

Farm Number 01625

Birthday 18/11/2007 Age 5/5

Calving Date 28/05/2012 D.I.M. 346

Calving N° 3

Operator ANKA1 Date

Remove diagnosis

Cancel

Accept

Claw Select

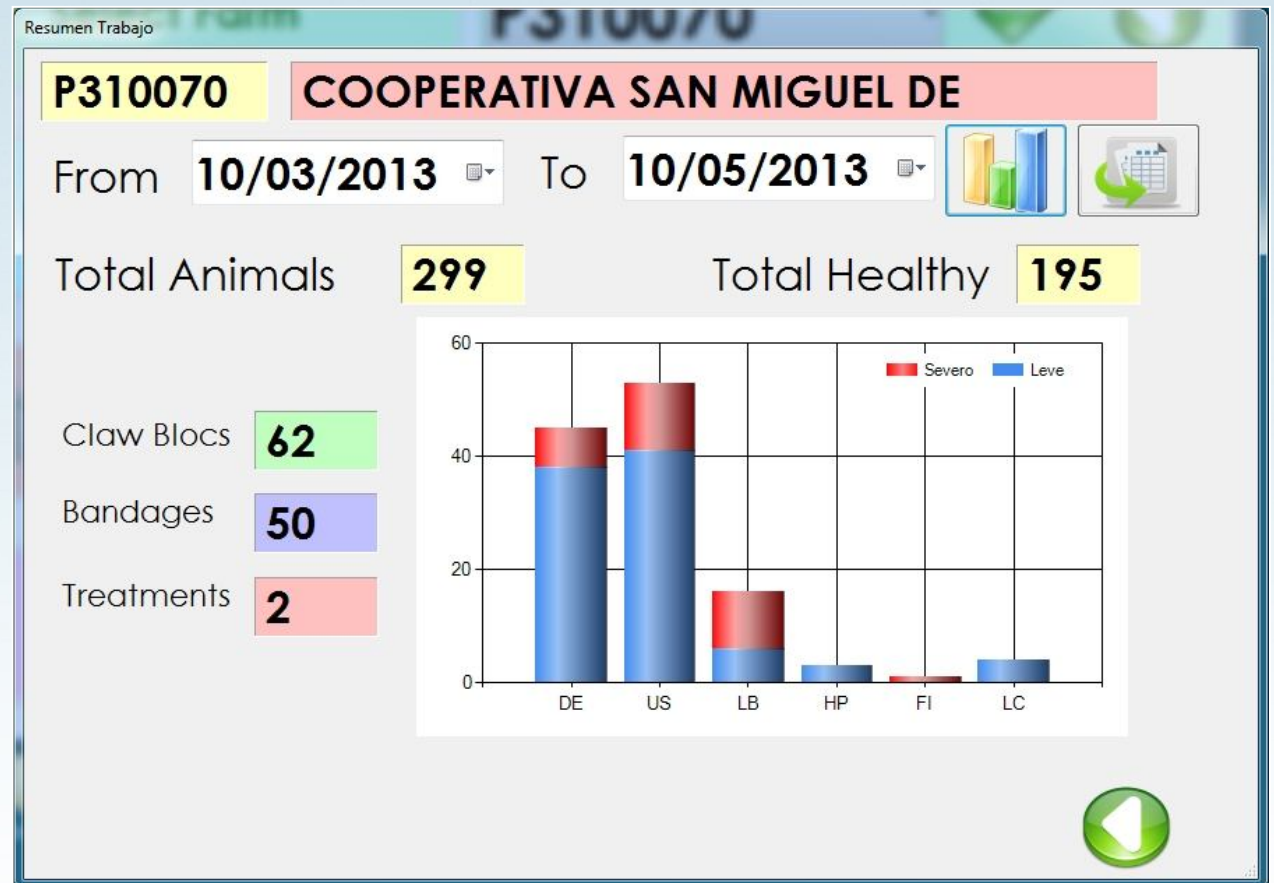
TRAITS RECORDED

Traits	Abb.	Definition
Dermatitis	DE	<i>Digital and interdigital skin inflammations</i>
Sole ulcer	SU	<i>Defect through the sole complicated by an infection</i>
White line	WL	<i>Fissure or separation in the side wall or/and in the sole of the hoof</i>
Hyperplasia	HP	Growth of tissue or a fibrous mass from the interdigital spaces of the claw
Phlegmon	PH	Subacute or acute necrotic swelling infection in the interdigital skin
Chronic laminitis	CL	Breakdown of the dermal-epidermal junction of the hoof, recognized by bent and heavily ridged claw

Lesions are recorded as Mild or Severe for each claw

Feedback

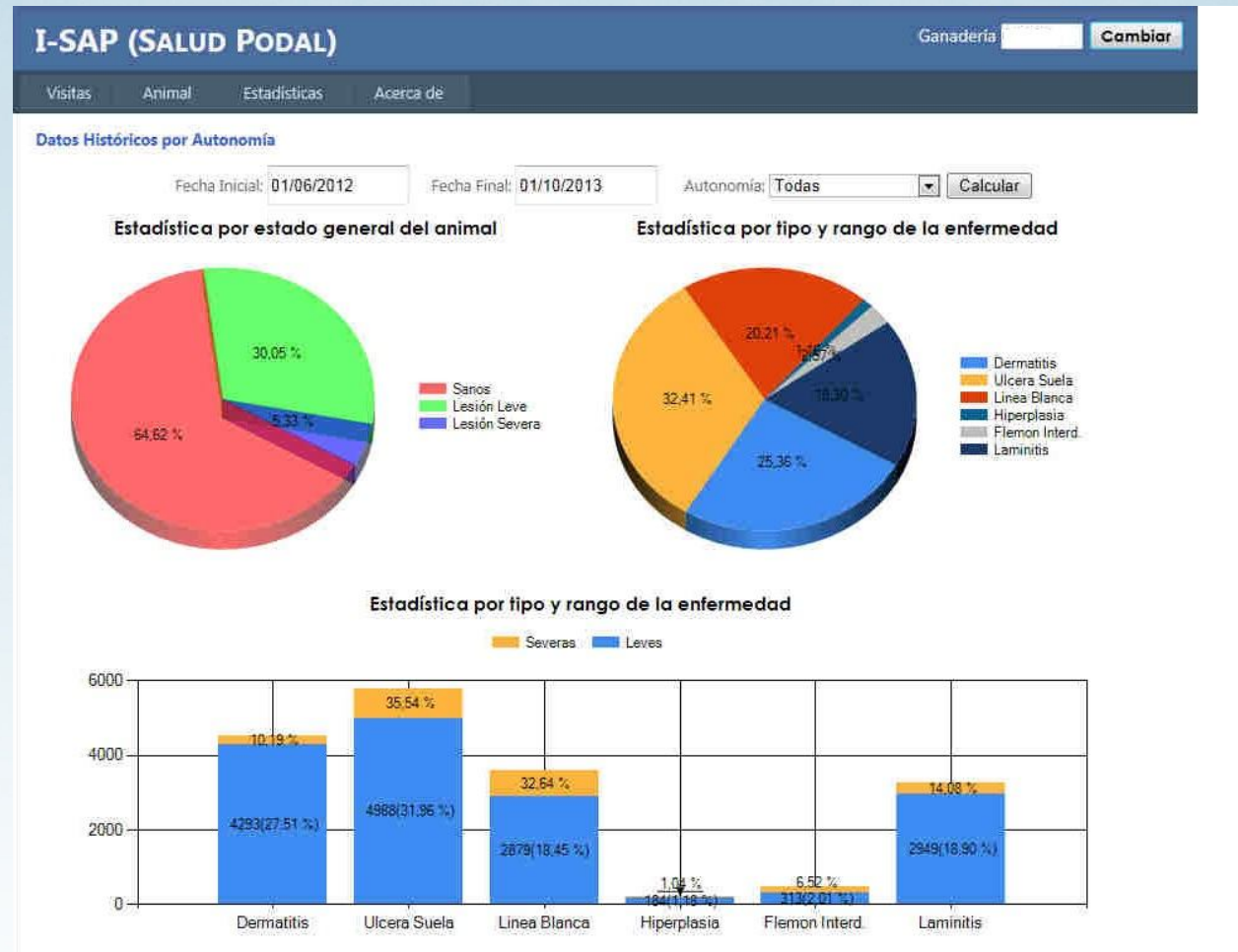
Trimmer delivers
a visual
summary report
for the farmer
after each visit



Feedback

Farmers and trimmers can explore claw statistical figures at animal, visit, herd, regional or national level in the I-SAP web site

<http://www.conafe.com/isap>



MONITORING ROUTINE

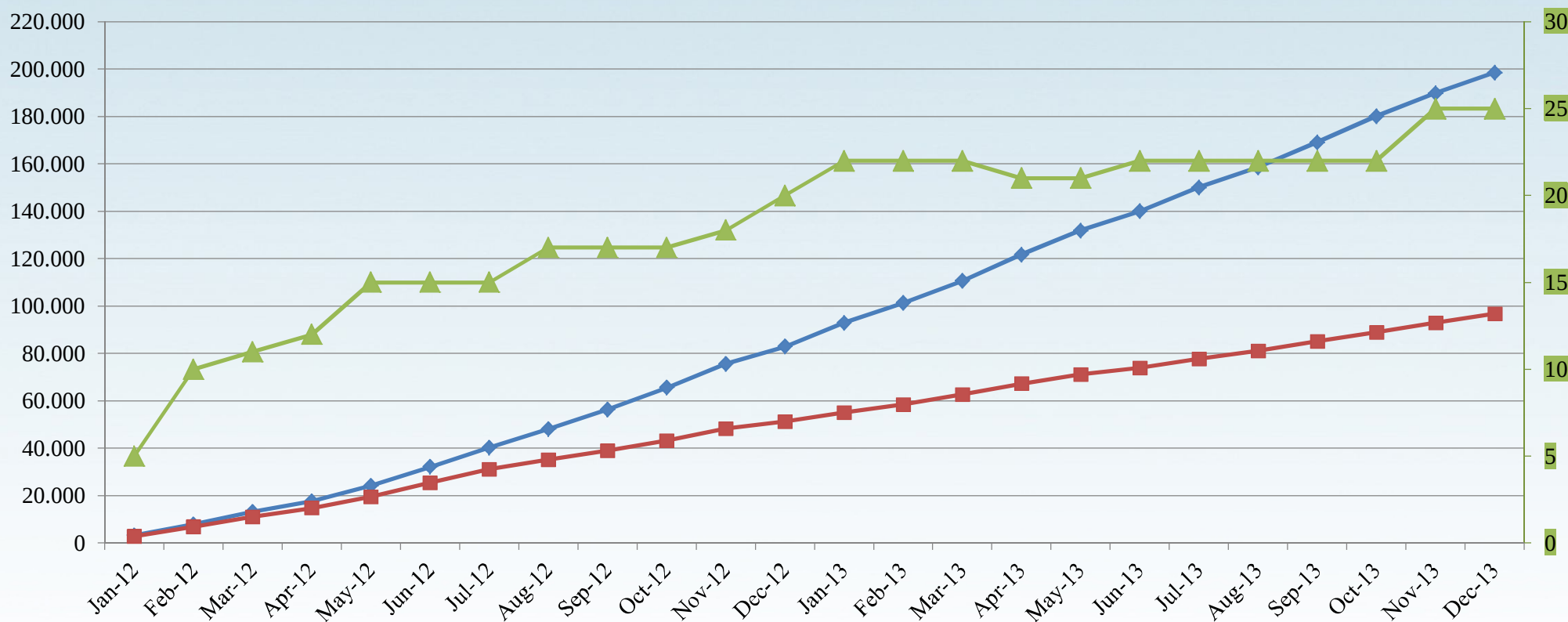
Workshops are held periodically to unify criteria and to train hoof trimmers



OVERVIEW OF DATA RECORDED

Evolution of claw health data

Records Cows Trimmers



Observed HERD PREVALENCE

Trait		%
Dermatitis	DE	8.58
Sole Ulcer	SU	16.18
White line	WL	7.20
Chronic laminitis	CL	3.94
Hyperplasia	HP	0.57
Phlegmon	PH	0.80
Overall claw disorder	OCD	31.70

Heritability

	Linear model		Threshold model	
	h^2	S.E.	h^2	S.E.
DE	0.02	0.004	0.14	0.031
SU	0.04	0.004	0.15	0.024
WL	0.02	0.003	0.09	0.021
CL	0.01	0.002	0.07	0.019
HP	0.04	0.003	0.39	0.068
PH	0.01	0.002	0.06	0.019
OCD	0.05	0.004	0.11	0.007

Heritabilities estimated
Support that substantial
genetic variation does
exist, which warrant
selection to improve
claw health

Heritability of the combined trait OCD shows no significant advantage

Repeatability

Repeated measures for the same cow will improve reliabilities of genetic breeding values.

	Linear model		Threshold model	
	r	S.E.	r	S.E.
DE	0.10	0.006	0.42	0.032
SU	0.17	0.006	0.51	0.019
WL	0.11	0.005	0.42	0.030
CL	0.18	0.006	0.58	0.035
HP	0.05	0.004	0.69	0.135
PH	0.03	0.004	0.33	0.212
OCD	0.15	0.005	0.38	0.016

Correlations between claw disorders

	Traits metabolic related				Traits hygiene related		
	DE	SU	WL	CL	HP	PH	OCD
DE	-	-0.08	-0.30	-0.27	0.10	0.33	0.39
SU	-0.05	-	0.98	0.95	0.00	-0.69	0.98
WL	-0.04	-0.01	-	0.63	-0.22	-0.05	0.93
CL	-0.03	0.01	0.03	-	-0.03	-0.61	0.78
HP	-0.01	-0.01	-0.01	-0.01	-	0.18	0.04
PH	-0.01	-0.02	-0.02	-0.01	0.01	-	0.16
OCD	0.44	0.60	0.37	0.32	0.07	0.18	-

Correlations with type traits

	DE	SU	WL	CL	HP	PH	OCD
Feet & Legs Composite	-0.26	-0.24	-0.01	-0.08	-0.46	-0.62	-0.29
Foot Angle	0.05	0.03	0.25	0.25	-0.17	-0.42	0.16
Bone Quality	-0.06	-0.03	-0.27	-0.10	-0.35	-0.40	-0.21
Rear Leg Side View	0.12	0.20	-0.01	0.12	-0.01	0.38	0.18
Rear Leg Rear View	-0.28	-0.04	0.24	0.15	-0.38	-0.64	-0.07
Locomotion	-0.38	-0.27	-0.02	-0.15	-0.43	-0.53	-0.35

Correlations with other traits

Production	DE	SU	WL	CL	HP	PH	OCD
Milk	0.05	0.13	0.19	0.32	0.12	0.41	0.20
Fat	-0.08	0.11	0.02	0.16	0.02	0.59	0.10
Protein	0.02	0.07	0.11	0.23	0.12	0.59	0.14

Functional	DE	SU	WL	CL	HP	PH	OCD
SCC	0.08	0.21	-0.07	0.09	0.09	-0.01	0.14
Day Open	0.13	0.42	0.18	0.38	-0.07	-0.77	0.40

Conclusions

- ❑ Claw health recording is crucial tool: provides useful information**
- ❑ Concerted selection may reduce the prevalence of claw lesions**
- ❑ In order to implement a future genetic evaluation, further studies regarding the most appropriate model are in process**

CONAFE

thank you!



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