

# Claw Health Data Recording in Spanish Dairy Cattle

N. Charfeddine<sup>1</sup> & M. A. Pérez-Cabal<sup>2</sup>

<sup>1</sup> *CONAFE, Madrid, Spain*

<sup>2</sup> *Complutense University of Madrid, Spain*

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## OUTLINE

- Background
- Recording claw health data: I-SAP
- Traits recorded
- Feedback to farmers
- Monitoring routine
- Overview about data recorded

## Background

- ❑ Claw health is getting worse:
  - Higher yielding cows
  - Increasing herd size
  
- ❑ Lameness is major issue:
  - Economic loss
  - Animal welfare
  - Overuse of antibiotics
  
- ❑ Technological advances
  - PC-touch screens more affordable
  - User-friendly interfaces for database connection
  
- ❑ Genomic Selection
  - Incorporation of health traits in Breeding program is viable



**WHY CLAW HEALTH RECORDING?**

## I-SAP

### Information of claw health for lameness control and prevention

- 2012 CONAFE:
  - Agreements with:
    - ANKA for developing a regular electronic recording system
    - SERAGRO for information exchange
    - Agreements with individual trimmers
  
  - Setting National Claw health database

## I-SAP

- Trimmer should download previously farm data
- Data are recorded during urgent and scheduled visit
- Recording data relies on an easy and intuitive procedure
- Data should be recorded in the farm during trimming routine





## I-SAP

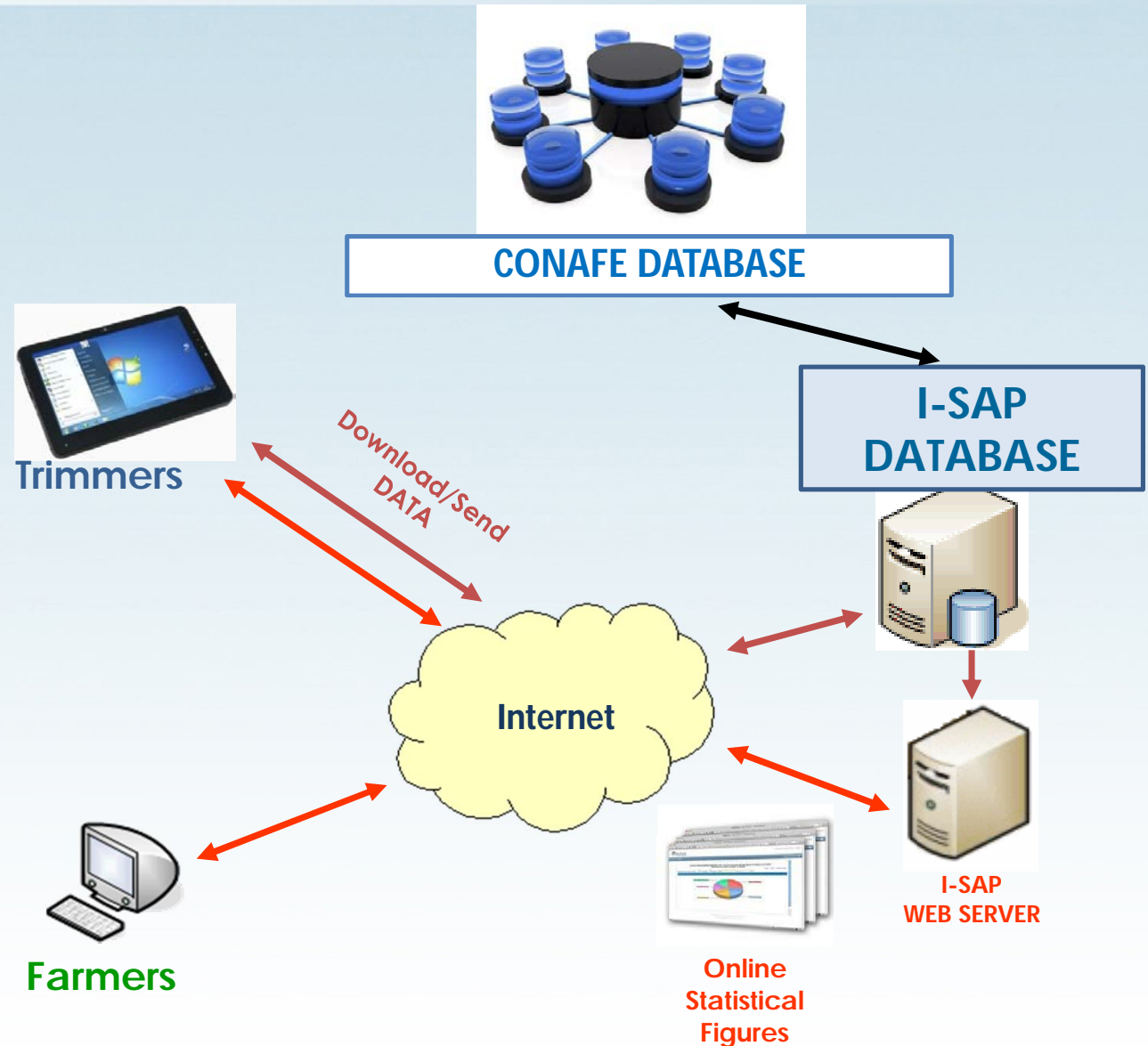
- Friendly PC-tablet application was developed
- Useful information of preliminary proceedings

The screenshot displays the I-SAP application interface for animal management. At the top, the animal ID **ES011402492288** is shown. Below this, a grid of 12 thumbnail images shows the animal's hooves from various angles, with dates ranging from 05/04/2013 to 25/10/2012. A yellow callout labeled "Previous trims" points to the 27/03/2013 thumbnail. The main interface is divided into four quadrants for hoof selection: "Fore Right", "Rear Right", "Fore Left", and "Rear Left". Each quadrant has a list of hoof types (DE, US, LB, HP, FI, LC) and a corresponding illustration. A yellow callout labeled "Claw Select" points to the "Fore Left" quadrant. To the right, a green panel contains animal data: Animal ID (ESP3102858753), 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 this panel are three buttons: "Remove diagnosis" (red X), "Cancel" (red X), and "Accept" (green checkmark). A yellow callout labeled "Animal Data" points to the data panel.

## I-SAP

### RELATIONAL DATABASE

I-SAP database is integrated in CONAFE central data base



## TRAITS RECORDED

Traits	Abb.	Definition
Dermatitis	DE	Digital and interdigital skin inflammations
Sole ulcer	SU	Defect through the sole complicated by an infection
White line	WL	Fissure or separation in the side wall or/and in the sole of the hoof
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

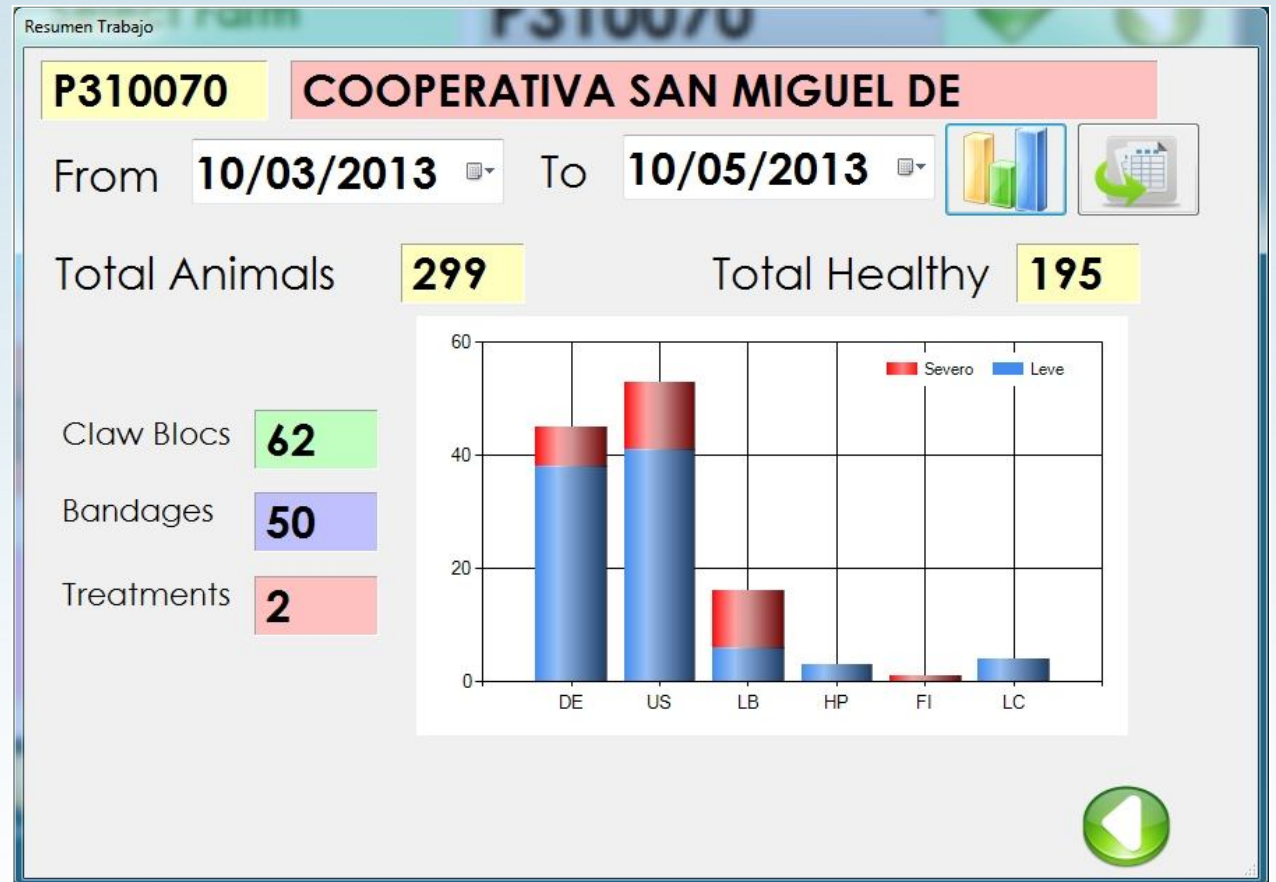
Lesions are recorded as Mild or Severe for each claw



## Feedback

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



# CONAFE

## MONITORING ROUTINE

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







# INFORME ANUAL SOBRE DATOS DE SALUD PODAL



ANKA1

Podologo: Miguel Angel Franco

	Fecha Inicio	Fecha Final
Periodo :	22-mar-2012	22-ago-2013

Periodo entre Visitas	2,23
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Numero de Registros	7504
Numero de Visitas	212
Numero de Vacas	5044
Numero de Ganaderias	53

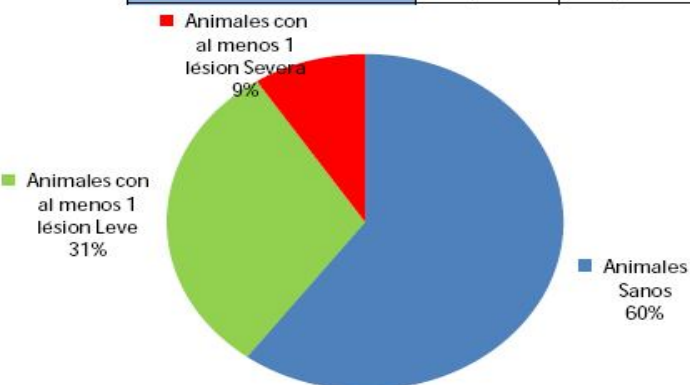
% Novillas	6,61%
% Vacas Primer Parto	26,12%
% Vacas Segundo Parto	28,92%
% Vacas Tercer o mas Partos	38,35%

% Vacas con Del inf o igual 150 dias	19,50%
% Vacas con Del sup a 150 dias	80,50%

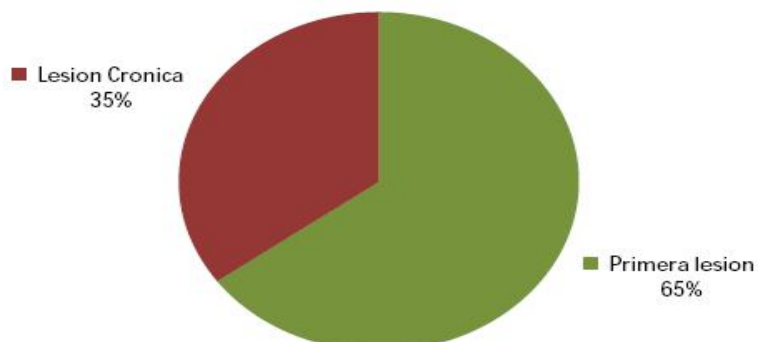
% Visitas Urgentes	58,89%	Recorte Total	15,00%	Vacas Recortadas/Censo	67,5%
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	Front_Izq	Front_Der	Post_Izq	Post_Der	Total	Leve	Severa	Sin lesion	Primera lesion	Lesion Cronica
<b>Dermatitis</b>	0,53%	0,57%	6,53%	6,62%	12,43%	11,11%	1,32%	87,57%	75,41%	24,59%
<b>Ulcera de suela</b>	2,28%	2,15%	8,80%	8,94%	18,56%	14,03%	4,53%	81,44%	65,53%	34,47%
<b>Linea Blanca</b>	0,67%	0,85%	4,73%	4,94%	10,34%	7,08%	3,26%	89,66%	56,64%	43,36%
<b>Laminitis Cronica</b>	0,21%	0,20%	2,63%	2,77%	4,16%	3,32%	0,84%	95,84%	78,33%	21,67%
<b>Hiperplasia Interdigital</b>	0,03%	0,00%	0,32%	0,28%	0,52%	0,37%	0,15%	99,48%	76,19%	31,08%
<b>Flemon Interdigital</b>	0,05%	0,05%	0,63%	0,60%	1,31%	0,65%	0,65%	98,69%	37,50%	62,50%
						30,62%	9,21%	60,17%	65,02%	34,98%
<b>Vendas</b>	0,59%	0,67%	6,61%	6,57%	13,53%					
<b>Tacos</b>	2,59%	2,35%	10,63%	10,78%	22,88%					
<b>Tratamiento Vet.</b>	0,08%	0,07%	0,68%	0,67%	1,47%					

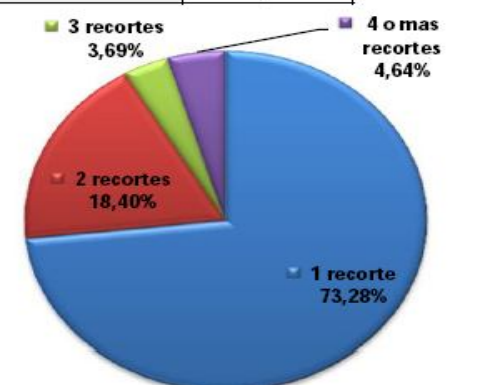
Numero de recortes / vaca:	1,49
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Descripción de animales recortados



Descripción de lesiones registradas

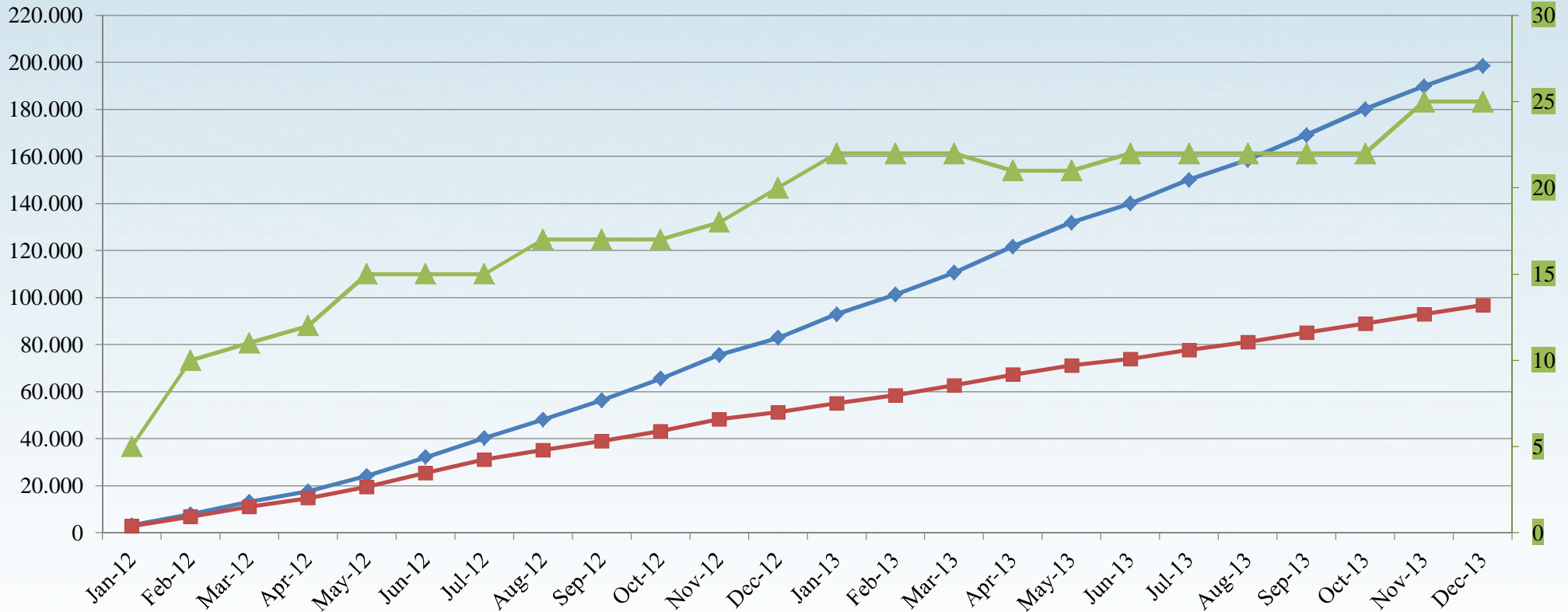


Descripción de numero de recortes por vaca

## OVERVIEW OF DATA RECORDED

### Evolution of claw health data

Records Cows Trimmers



**CONAFE**

## I-SAP

More than  
1300 herds  
and 20% of  
registered  
cows have  
claw health  
data





## Data recorded from July 2012 to June 2013

78,257 records registered on 51,506 cows, by 21 trimmers in 834 dairy herds, during 5979 visits

	Herd Size	% Animal Trimmed By herd	% Animal Healthy By herd	Lactations			DIM	
				% 1 <sup>st</sup> Parity	% 2 <sup>nd</sup> Parity	% 3 <sup>rd</sup> or higher	% ≤150 days	% >150 days
Mean	104	66.3	68.3	31.9	28.2	39.8	28.5	71.4
S. D.	101	30.5	28.5	11.7	8.9	13.3	14.6	14.6
Minimum	5	5.4	0	0	0	0	0	30.7
25 Percentile	48	47.8	56.2	25	22.9	31.5	17.7	61.1
Median	69	69.4	71.3	32	27.7	39.7	32.4	67.6
75 Percentile	117	85.2	82.6	38.6	33.3	47.4	38.9	82.2
Maximum	1447	100	100	100	64.7	100	69.2	100

Observed HERD PREVALENCE mean (%), SD (%), minimum, 25<sup>th</sup> percentile, median, 75<sup>th</sup> percentile and maximum prevalence (%) within herds of 6 claw disorders in Spanish dairy cattle

%		DE	SU	WL	HP	PH	CL
Between Herds	Mean	8.58	16.18	7.20	0.57	0.80	3.94
	SD	9.87	12.41	7.51	2.22	1.86	6.01
Within Herds	Minimum	0	0	0	0	0	0
	25 Percentile	0.90	7.14	1.90	0	0	0
	Median	5.55	12.98	5.22	0	0	1.65
	75 Percentile	12.90	22.39	10.00	0	0.70	5.44
	Maximum	75.00	90.00	54.50	21.80	14.30	40.40

herds prevalence distribution shows a positive skew

## CONCLUSIONS

- ❑ I-SAP is crucial tool: provides useful information
  - Breeding program
  - Herd daily management
  - Trimmer recommendations
  
- ❑ Trimmers and farmers more and more aware of its usefulness
  
- ❑ Most herds have a moderate prevalence of claw disorders, but some herds show very high incidence, which increase the average incidence
  
- ❑ Many countries are implementing a recording system at large scale: A good time to share experience and for International harmonization

# CONAFE

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thank you!



Confederación de Asociaciones de Frisona Española  
Ctra. de Andalucía km. 23,600 - Apd. Correos 31  
28340 Valdemoro, Madrid  
Tlf.: +34 918 952 412 - [www.conafe.com](http://www.conafe.com) - [conafe@conafe.com](mailto:conafe@conafe.com)