4 **INNOVATIONS** SUPPORTING GENETIC EFFICIENCY

#1 | HOOF HEALTH | GÉNO SANTÉ

STOP TO LAMENESS!

SECOND PATHOLOGY IN DAIRY HERDS

INCIDENCE FOR 100 COWS : 6000€/YEAR

NEW — **NOW AVAILABLE FOR THE NORMANDE !**

RLI RESISTANCE TO INFECTIOUS LESIONS	< 2 SCIENTIFIC INDICATORS TO MANAGE HOOF HEALTH >	**RLNI** RESISTANCE TO NON-INFECTIOUS LESIONS

WE GIVE YOU TOOLS TO MOVE FORWARD RIGHT NOW :

< *Our bulls are evaluated*

Genimprove — *Your females are evaluated by EVOLUTION genotyping* >

Developed by GENOSANTE collective and its partners

PRODUCT SHEET: UNDERSTAND AND USE THIS INNOVATION IN YOUR HERD

EVOLUTION International

HERDS CONTEXT AND CHALLENGES

HOOF HEALTH ISSUES IN NORMANDE BREED

Lameness is the second pathology of dairy cows after clinical mastitis. 11% of cows have clinical lameness and 2 to 3 time more subclinical lameness.

Direct Consequences:

> Limits movements (fewer robot passages), falling risks

> Ingestion, rumination and therefore production decrease (-300 to 500kg of milk) and effects on feed disorder (ketosis, acidosis)

> Degraded cyclicity and heat expression with 35% more failures at AI

> Weight and body condition losses *(Huxley, 2013)*

> Culling are 8.4 times higher in cows with clinical lameness *(Sprecher et al., 1997)*

> Animal welfare (stress and immunity decrease – metritis, mastitis…)

Economic impact: 265 € per cow with clinical lameness and 130€ per cow with subclinical lameness. I.e 5,830€ per year for an average herd of 100 dairy cows

PRINCIPLE OF EVOLUTION INNOVATION

WHAT IS THE NORMAND HOOF HEALTH?

Génosanté hoof health indicator Genosanté is the most robust information for the Normande breed.

> **The largest reference population:** 38 299 females taken into account, of which 18 152 trimmed since 2014, 5496 genotyped and trimmed females and 406 bulls with results on progeny

> **The same scientific methodology as all official proofs:** : INRA, Idele, Allice

  - A continuous enrichment of new cows trimmed in the reference population

  - Bulls and females with genomic indicators : expression of trends by range:
  [-1.0 ;-0.5 ;0 ;+0.5 ;+1.0]

  - Proven bulls with trimmed daugthers : The proof is more accurate with higher reliability

> **2 indicators for a more reliable selection effect**

  - RLI : (Resistance to Infectious Lesions) : Dermatitis and Interdigital Hyperplasia synthesis

  - RLNI : (Resistance to Non-Infectious Lesions) : White Line, Sole Ulcer and Sole Hemorrhage Circumscribed synthesis
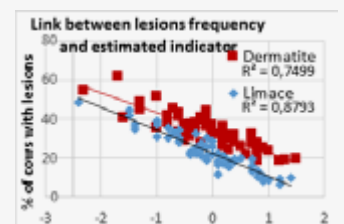
Examples of the genetic proofs effect on bulls with more than 50 daughters:

RLI : Interdigital Hyperplasia :
- +1 bull : 60% fewer daughters with Interdigital Hyperplasia than the average (10% vs 24%)
- -1 bull : 60% more daughters with Interdigital Hyperplasia (38% vs 24%)

RLI : Dermatitis :
- +1 bull : 25% fewer daughters with dermatitis (25% vs 35%)
- -1 bull : 25% more daughters with dermatitis (45% vs 35%)

Link between lesions frequency and estimated indicator — Dermatite $R^2 = 0,7499$; Limace $R^2 = 0,8793$

BENEFITS FOR THE BREEDER

WHICH BENEFITS FOR THE BREEDERS ? 1ST GENERATION : 600€ GAIN/ 100 DAIRY COWS /YEAR

1- For females: get 2 indicators to limit the incidence of lameness

2- For bulls : identify the most favourable (especially among the proven ones/more precise)

Example for a 100 dairy cows herd of which 30 females have lesions, including 10 clinical and 20 sub-clinical lameness:

> Targeted mating for sensitive females (-1) with improving bulls (+1)

> 7% reduction in the lesions expression, ie an economic gain of 600€/ year

*Bibliographical references: **Boiterie clinique : Pertes de lait >350kg (50-800kg)** (Green et al 2002, UMT Boiteries 2011) ; (Holzhauer, 2003)*