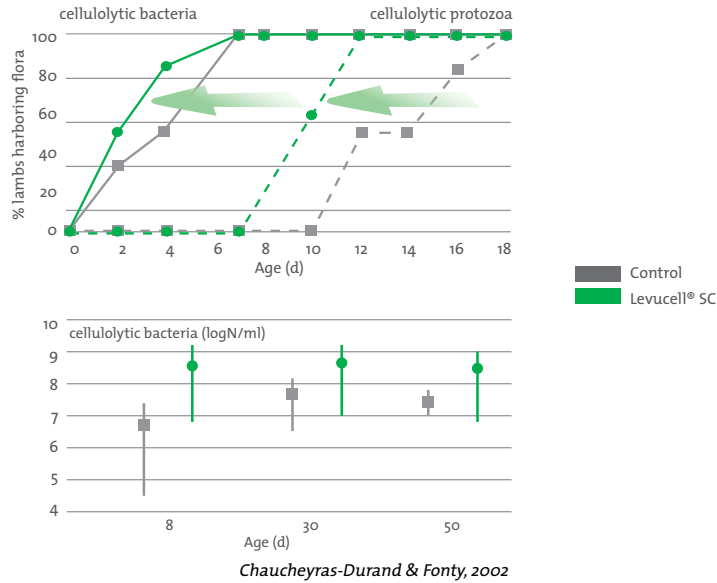


LEVUCCELL® SC : MODE OF ACTION

LevuCell® SC acts on 2 main components of the rumen : the microbiota and the capacity of absorption.

- LevuCell SC stimulates quicker establishment of key bacteria (mainly cellulolytic) and protozoa. This leads to:
 - Increased feed intake both before and after weaning
 - Improved feed digestion



- This more developed microflora improves production of Volatile Fatty Acids which:
 - Stimulates the growth of rumen papillae leading to a higher absorption capacity
 - Results in a thicker rumen wall and a greater protection against external attacks thereby limiting disease occurrence.

Number of bacterial strains (inoculated)	Papillae length (mm)	Rumen wall thickness (mm)
low (30)	0.9	1.1
high (182)	4.5	1.7

Fonty 1984



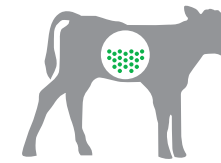
Well developed papillae



Poorly developed papillae

Creation : Y/AP/AK-LSC_SS_RUMEN_ENG_1109

€ EU approved (E1711/4b1711/4a1711) for use in bovine destined for meat and milk production, dairy goats and ewes and horses



LevuCell® SC
Rumen Specific Yeast €

Rumen development



During the first months of its life, the digestive tract of a young ruminant undergoes significant and extensive changes as it evolves from its initial monogastric function.

At weaning, a well developed rumen is able to:

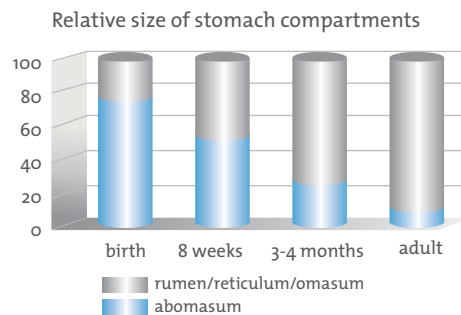
- Digest feed efficiently (forage and concentrate)
- Ensure a maximum absorption of digested nutrients
- Provide an efficient barrier against pathogens

▶ RUMEN DEVELOPMENT

Rumen volume is 1.75 litres for calves at 1 month of age increasing to approximately 14 litres by weaning and 200 litres as a mature adult.

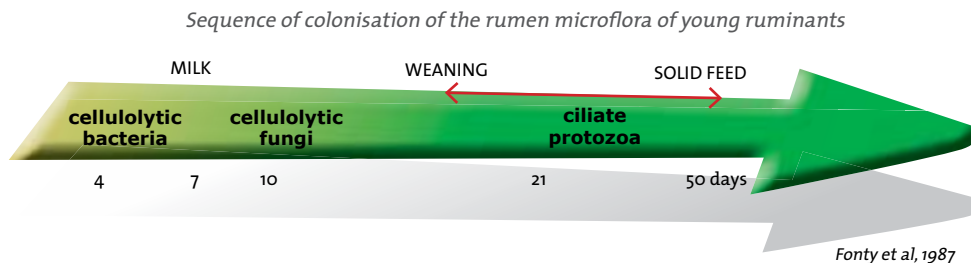
The rumen grows faster than the abomasum. At birth, it represents one third of total volume of the stomachs and at weaning, one half of this volume.

As an adult, the volume of the abomasum is less than 10% of total volume.



▶ HOW IS THE RUMEN COLONIZED BY MICRO-ORGANISMS?

At birth, the rumen is sterile. Colonization by micro-organisms follows a specific order.



There are several routes to colonization. The main way is through suckling from its mother. When young animals are separated at an early age, ingestion of feed, licking, drinking are others sources of inoculation.

Contamination of feed (forage, concentrate, milk), the housing environment and water source can have a significant impact on the young animals digestive health.

▶ OBJECTIVES OF GROWING HEALTHY YOUNG RUMINANTS

They are numerous and varied

- To allow a quick establishment of micro-flora
- To ensure a development of an important and varied microbiota
- To stimulate ingestion and digestion
- To reinforce calves defences
- To improve animals health and well being
- To increase the potential of rumen absorption

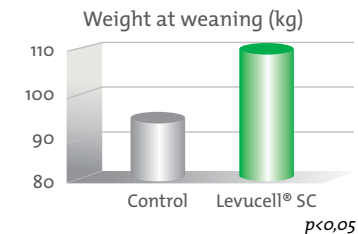
Ensuring these objectives are fulfilled allows the animals to maintain steady growth under intensive conditions with minimal threat of disease.

▶ EFFECT OF LEVUCCELL® SC ON CALF PERFORMANCE

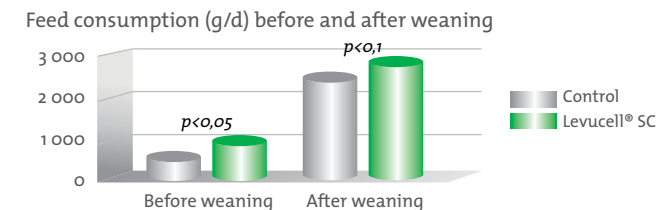
Several studies demonstrate the positive impact of Levucell® SC (*University of California Davis, 2003*):

- Heavier animals at weaning
- Increased feed intake
- Reduced medication and treatment costs

▶ Levucell® SC increases weight at weaning by 14.5%



▶ Levucell® SC improves feed intake by 56% and 17% before and after weaning respectively



▶ Levucell® SC reduces medication cost by 50%

