

# Sheep Presenter

# About Phileo Lesaffre

- Phileo Lesaffre Animal Care is part of Lesaffre, the **world's largest manufacturer of yeast**
- Around **40%** of the world's yeast is made by Lesaffre!
- All products made by **unique process specifically as livestock feed additives**, rather than as by-products

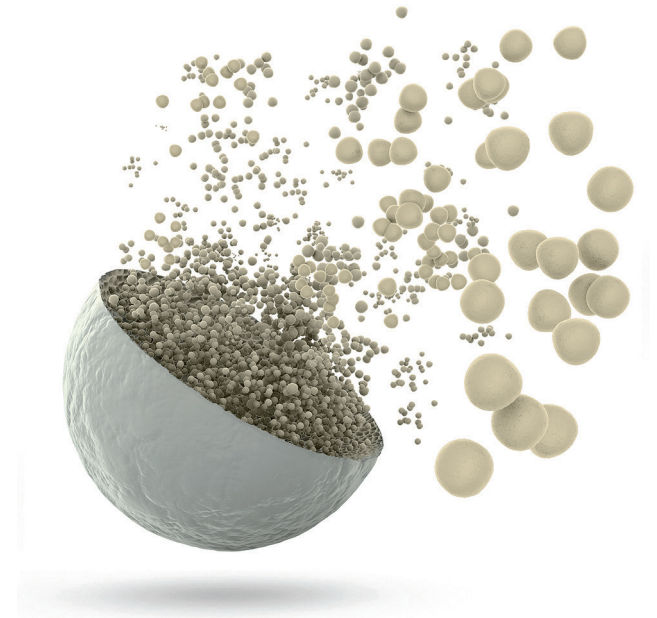


# What is Actisaf®?

- Actisaf® is a **specific strain of live yeast** of the species *Saccharomyces cerevisiae*
- Yeast ferments carbohydrates, **respiring oxygen** and producing carbon dioxide
- An **Actisaf yeast prill** is a bit like a Malteser - the unique drying process results in a layer of dead cells around the edge of the prill (like the chocolate on the Malteser!) that protect the live cells within

Key factors for a live yeast to be effective:

- **Strain** - Actisaf is a specific strain selected for performance as a feed additive
- **Stability** - Actisaf has a unique drying process that gives excellent stability
- **Dose** - Yeast must be administered at the correct dose to get the optimum response





## What is Safmannan?

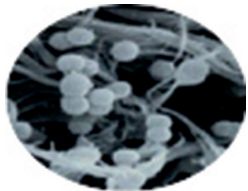
- External wall of specific strain of yeast cell
- Cell walls are uniquely dried to give a specific particle size
- The wall of a yeast cell contains two specific molecules of interest:
  - Mannanoprotein, to which certain gram negative bacteria adhere and are hence carried out of the animal
  - Beta-glucans, which act to stimulate the immune system of the animal

**Saf**Mannan

# Digestion in the rumen

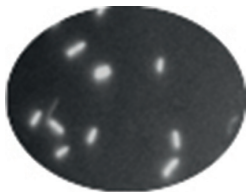
The rumen is a large fermentation chamber packed full of microbes, which:

- Digest feed to make energy and protein available to the animal
- Require a low oxygen environment, and pH between 6.0-7.0, to optimise feed digestion
- For optimal growth and digestion the rumen microbes require a balanced source of effective fibre, digestible fibre, starch, sugars, protein & trace elements



## **Bacteria**

~300 species  
 $10^{10}$  to  $10^{11}$  cells/ml



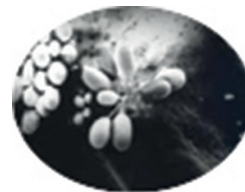
## **Methanogenic Archaea**

~6 species  
 $10^6$  to  $10^8$  cells/ml



## **Ciliate Protozoa**

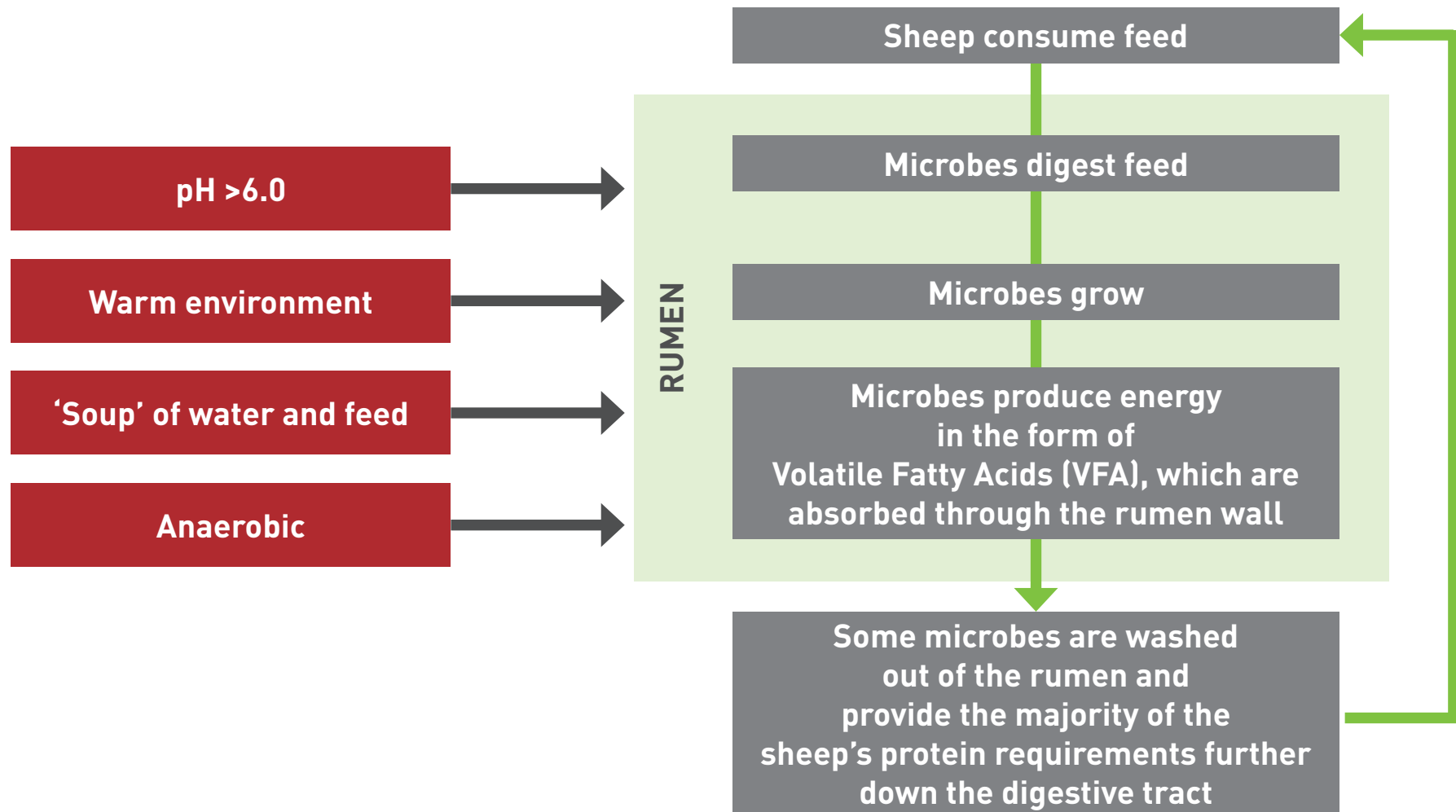
~40 species  
<  $10^5$  cells/ml



## **Anaerobic Fungi**

~30 species  
<  $10^5$  cells/ml

# Rumen function





## For a successful lambing...

- Maximise use of home grown forage
  - Manage grass effectively
  - Improve grassland productivity
  - Make high quality winter forage
- Keep the rumen happy and functioning at its optimum rate
- Feed appropriate **supplements** when forage quality not good enough to meet the ewes needs
- **Supplement** not substitute with concentrates
- Lambs are born with an undeveloped immune system and so a good supply of high quality colostrum from the ewe is essential to achieve passive transfer of immunity to the lamb



# Working out diets and levels of supplements

- How much can she eat? (depends on forage quality)
- Ewe dry matter intake
  - 1.5% body weight when **dry** (post weaning, early/mid pregnancy)
  - 2 – 2.5% body weight in **late pregnancy**
  - 3.5% of body weight in **early lactation**

Energy requirement: 70 kg ewe:

		MJ/day
Maintenance	$(LW \div 10) + 3$	10
Gestation (last week)	About 4 MJ / lamb carried = +8 for twins	18
Lactation	Need 7MJ/l of milk. For twins ~ 3l milk in week 3 of lactation = extra 21 MJ	31



## Example diets

- 70kg ewe carrying twins in last week gestation
- Requires 18MJ
- Intakes depend on palatability, quality and dry matter of forage

Silage/hay	Intake (%BW)	Concentrate supplement required 13MJ/kg DM
11 MJ ME/kg DM	2-2.5	0 kg
10 MJ ME/kg DM	2-2.5	0.35 kg FW
9 MJ ME/kg DM	2-2.5	0.5 kg FW

NB: When feeding good quality forage, a ewe carrying multiple lambs should be fed 100 grams per lamb carried per day of soya to ensure good colostrum production, as more energy may not be required.

## Common diet specifications for ewes...

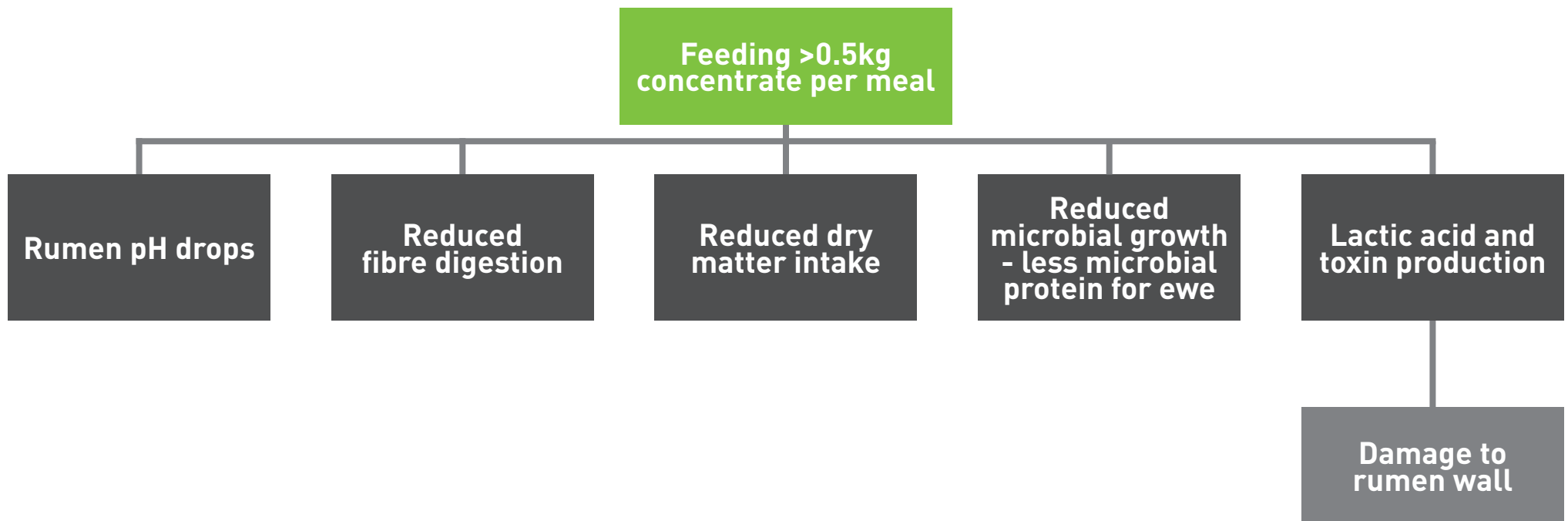
A good ewe compound feed should be available consistently, with a typical specification of:

- >12.5 MJ/kg DM
- 16-20% protein
- 6% DUP
- 4.5 to 5.5% oil
- <10% fibre
- <10% ash
- Good quality protein - 10% soya
- Cereals - 20%
- 150mg/kg Vitamin E
- 0.5 mg/kg Selenium



# Challenges to rumen function - sheep feeding

- Grass and other forages suffice for 85% of the year, with supplements only needed for:
  - Last 6 to 8 weeks of pregnancy
  - Early lactation

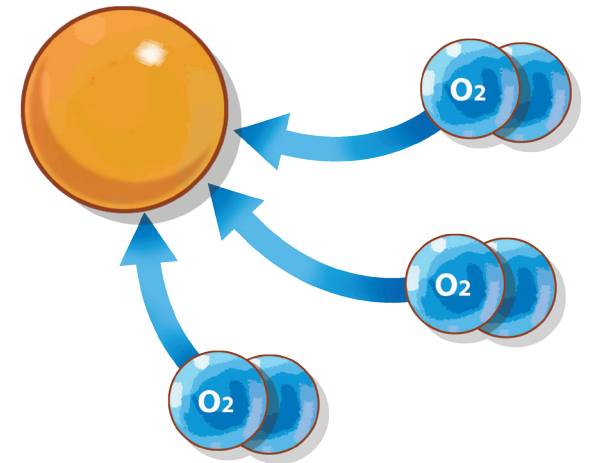


# The role of Actisaf® live yeast...

Actisaf® Sc-47:

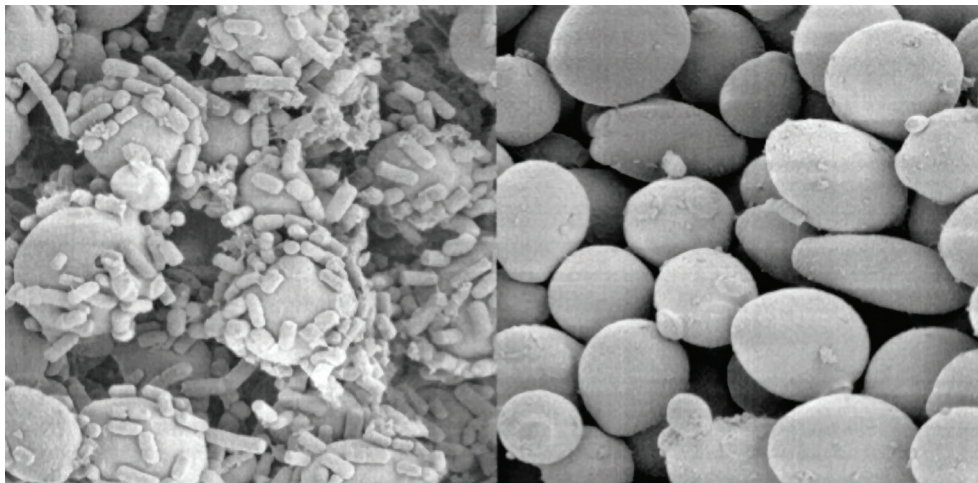
- Uses up oxygen in the rumen
- Stimulates beneficial microbes, increasing microbial protein production and converts lactic acid to propionate (the key glucose pre-cursor)
- Stimulates development of gut microflora
- Promotes rumen development
- Helps lambs digest solid feed earlier
- Improves fibre digestion and feed utilisation
- Stabilises rumen pH

**5g of Actisaf® has been proven to have a superior buffering capacity to 150g of bicarbonate, thereby stabilising rumen pH**



# Safmannan supports...

- 1 A reduction in pathogen pressure as it binds to E coli and Salmonella
- 2 Immune status
- 3 The production of good quality colostrum in ewes



**Saf**Mannan

Safmannan binds pathogens so reducing risk of disease and helping gut integrity

# Actisaf<sup>®</sup> sheep trial

Trial done in France on dairy sheep fed on concentrate and hay

- Milk production: +17.4%
- Fat production: +8%
- Protein production: +16.4%
- Although this trial was done on dairy ewes this response in all ewes would benefit nutrients available from milk to lambs

	Control	Actisaf	Treatment effect
Milk production	1728	2028	P<0.10
Fat (g/d)	121	131	-
Fat rate	69.5	68.4	NS
Proteins (g/d)	97.8	113.8	-
Protein rate	56.6	56.1	NS

# Safmannan sheep trial

- Feed blocks containing Safmannan were compared with control blocks
- 200 May lambing sheep were selected
- Treated and control feedblocks were fed for 4 weeks prelambing
- After lambing colostrum IgG level from the two groups were compared

## Results

- Initial liveweight for both groups was 72 kg
- No visible effect of treatment on ewe performance or condition
- Significant increase (+25%) in colostrum IgG with Safmannan feeding ( $p < 0.05$ )

	IgG Rep 1	IgG Rep 2	Mean
Treated	236.5	220.5	228.5
Control	176.6	189.2	182.9





# Conclusions

- Forage is key
- **Supplement** concentrate **not** substitute
- Feed Actisaf® Sc47 for improved rumen function, increased feed digestibility and utilisation
- Feed Safmannan for a better start for lambs

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