



# PROFILab: Fact Sheet and Potential Solutions

This technical sheet offers a better understanding of the meaning of the different groups of Fatty acids presented on your PROFILab report, and offers some potential solutions to your herd's situation.



## Fact Sheet and Potential Solutions

**1**  
**De novo**




**Synthesized in the mammary gland**  
Reflect rumen health

- ↑ Healthy rumen
- ↑ Good microbial function
- ↓ Lack of rumen degradable starch
- ↓ Lack of effective fibre
- ↓ Lack of rumen degradable protein
- ↓ Too much fat in the ration
- ↓ Poor rumen function
- ↓ Ruminal acidosis
- ↓ Poor management (Competition, empty feed bunk, sorting...)

**2**  
**Mixed**

- ↑ Supplementation with palm oil based feed
- Increased *de novo* synthesis
- ↓ Removal of palm oil based feed
- Anything that affects the *de novo*

**3**  
**Preformed**



**Derived from feed or body reserves**  
Reflect intake and mobilization

- ↑ Change in forages
- ↑ Increased intake
- Cows that lose weight after calving or for other reasons (if *de novo* drops at the same time)
- Addition of feeds that are rich in fat
- ↓ Decreased Intake
- Lack of energy (or fat)
- Change in forages (less fat)

**1** *de novo* FA: short chain FA (14 carbons or less) synthesized exclusively in the mammary gland from butyrate and acetate, two precursors that come from rumen fermentation.

**2** *Mixed* FA: 16 carbon FA derived from mammary gland synthesis (*de novo*) or the blood (feed or mobilization of body reserves).

**3** *Preformed* FA: long chain FA (15, 17 and 18 carbons or more) mainly derived from feed or mobilization of body reserves.

**Polyunsaturated:** FA with more than one double bonds, an increase in the milk reflects an increase in the ingestion of polyunsaturated FA or a problem with biohydrogenation. All polyunsaturated FA are preformed FA.

Look at our **NEW fact sheets** to help you assessing your herd milk and butterfat performances:

- [Assessing your herd with PROFILab](#)
- [de novo \(Ruminal Health\)](#)
- [Mixed \(Ruminal Health or Fat in Ration\)](#)
- [Preformed \(Ration Fat and Mobilization\)](#)
- [Polyunsaturated \(Ruminal Biohydrogenation\)](#)

 PARTENARIAT  
 **CANADIEN** pour  
 **l'AGRICULTURE**

Canada  Québec 

This project is funded through the Innov'Action agri-food program under the Canadian Agricultural Partnership, as part of an agreement between the governments of Canada and Quebec.

## PROFILab Benchmarks