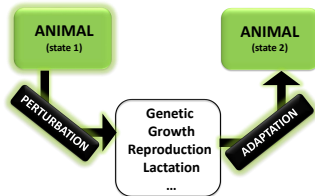
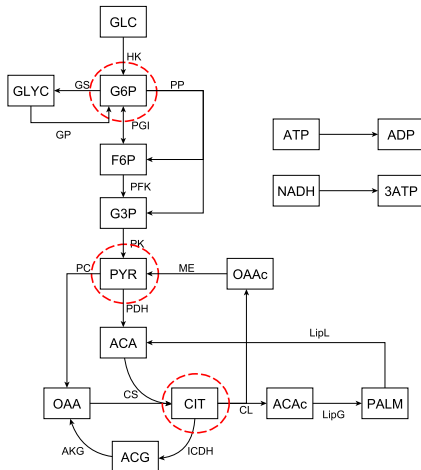


Mathematical modelling of the plasticity of energy stores at cellular scale

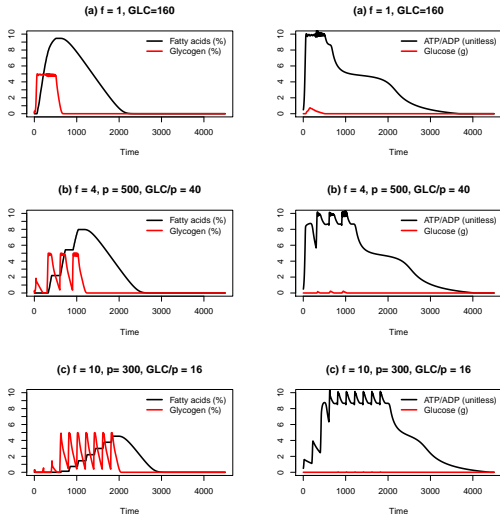
M. Taghipoor, J. VanMilgen, L. Brossard, F. Gondret



- Optimal livestock system
- Energetic and climate changes (**macroscopic scale**) impact the metabolic pathways regulation (**microscopic scale**).



Control (nutrition, environment, genetics, ...) the quality of farm animal productions (growth, meat, milk, ...).



The model is generic and phenomenological

Example

- Entry of 160 glucose units with : **continuous and discontinuous** uptake of glucose
- Available **energy** is higher for more frequent meal rather than for one input. Storage and use of **lipids** require a high amount of energy.
- Nibbling subjects would be **theoretically** leaner than single-meal eaters .

Perspectives

Coming back to animal scale or how these regulations at cellular scale modify animal growth, lactation,