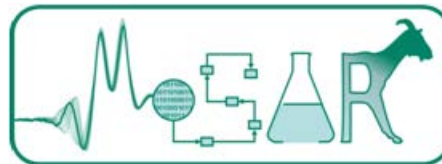


# INTAKE RATE EVOLUTION AFTER A CHANGE IN CONCENTRATE PERCENTAGE IN MID-LACTATION GOATS

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# Aim of the work

- ✓ **High milk production** is obtained by **increasing** the dietary concentrate percentage
- ✓ This can induce **subacute ruminal acidosis (SARA)**
- ✓ There is a **high between-animals variability**
- ✓ There is a relationship between **SARA** and **feeding behavior**

**The aim of the work** was to study the **evolution of the fractional intake rate** in mid-lactation goats by either **increasing** or **decreasing** the concentrate percentage.

# Material and Methods

Control diet (52.5 % concentrate)  
(12 goats)

Transition: 5 days



**Low** concentrate diet (**35 %**)  
(6 goats)

**High** concentrate diet (**70 %**)  
(6 goats)



**TMR *ad libitum*** (2 feed allowances per day)



# Experimental device at Grignon



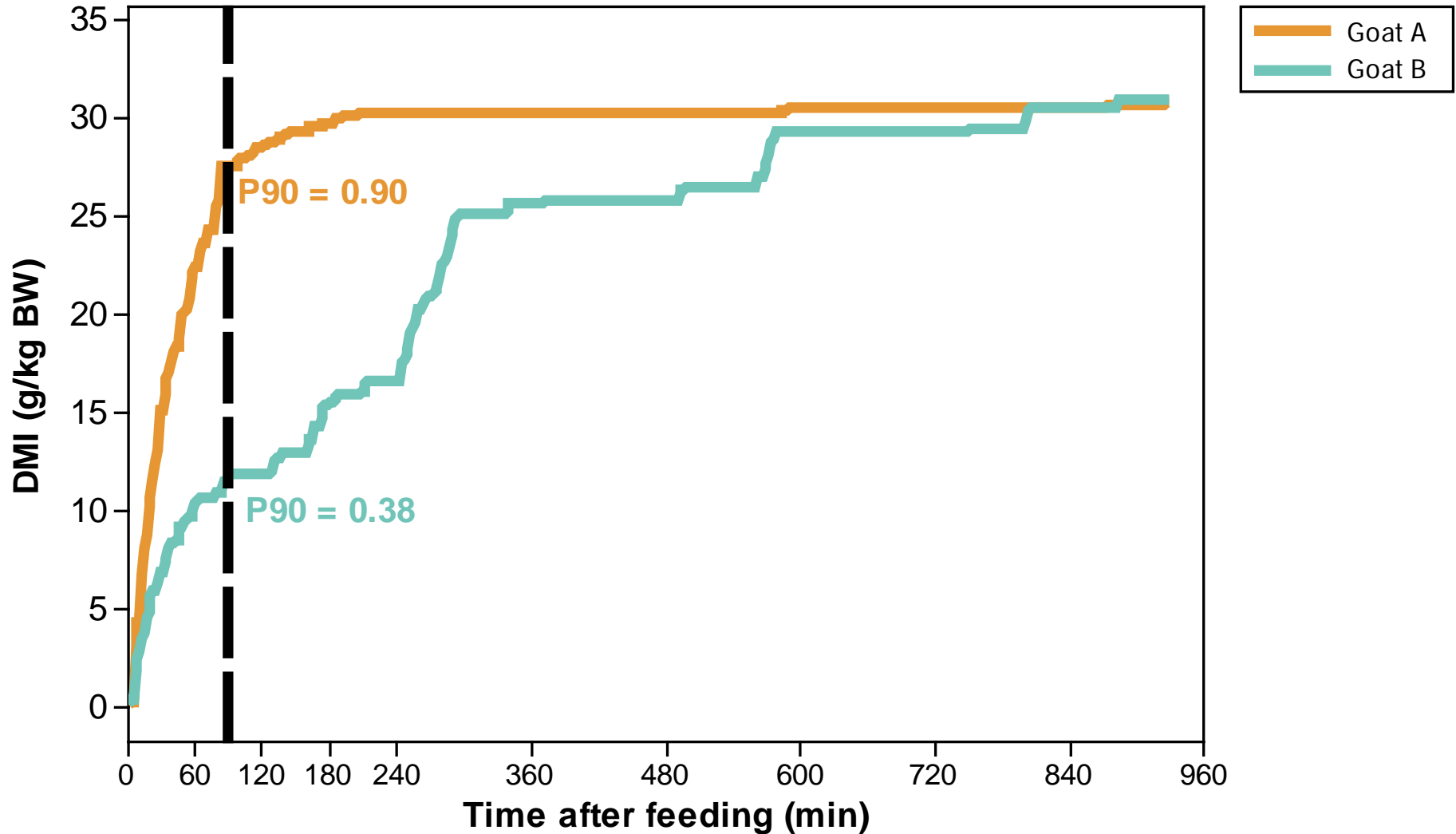
The weight of the feed was recorded every 2 min 22h per day

# Definition of fractional intake rate

Proportion of dry matter **eaten 90 min** after the afternoon feed allowance which corresponded to **two thirds** of the daily feed allowance (**P90**).

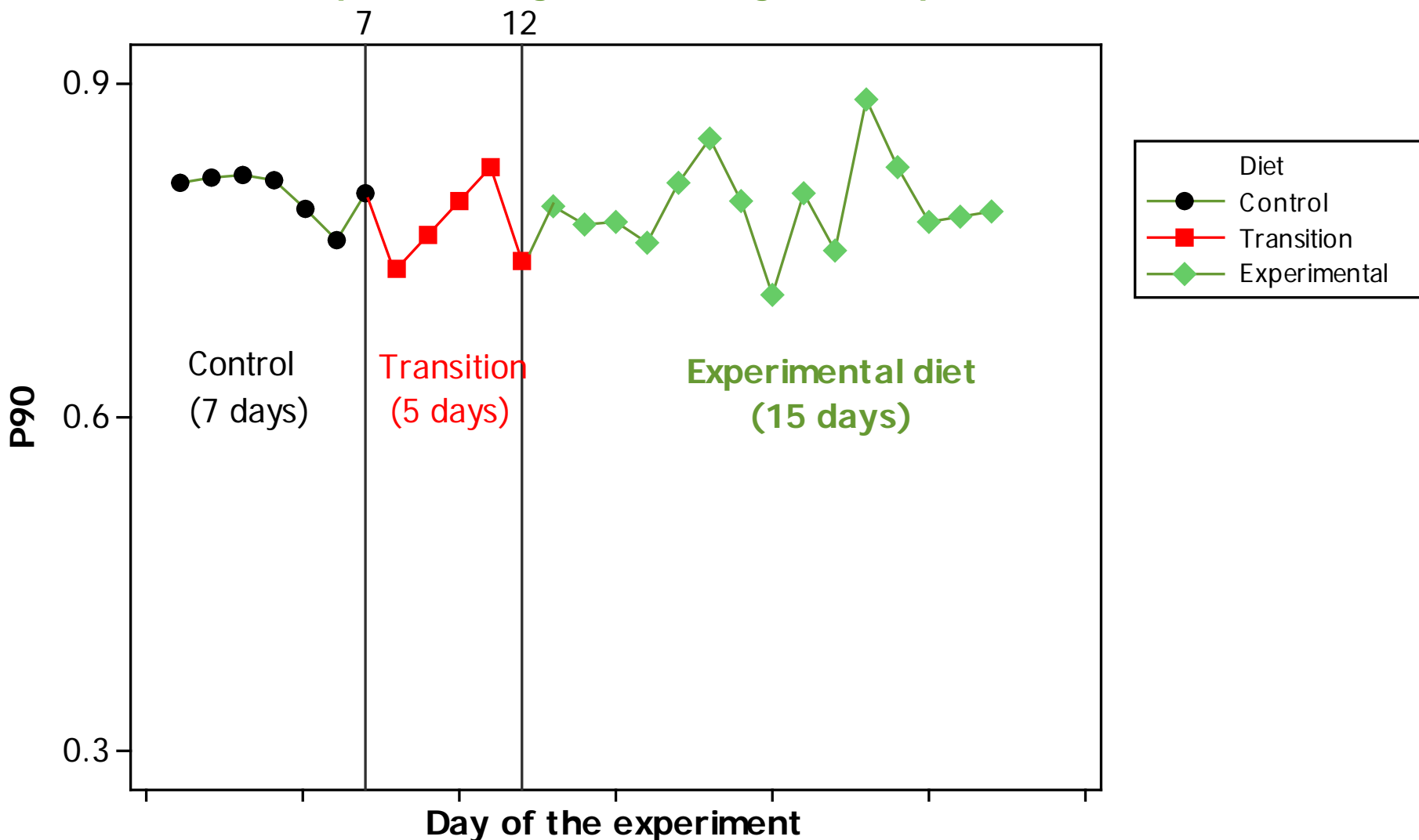
Giger-Reverdin et al (ISRP, 2009)

# Dry matter intake evolution (pm Feed allowance )



# Evolution of P90 with the change in concentrate percentage

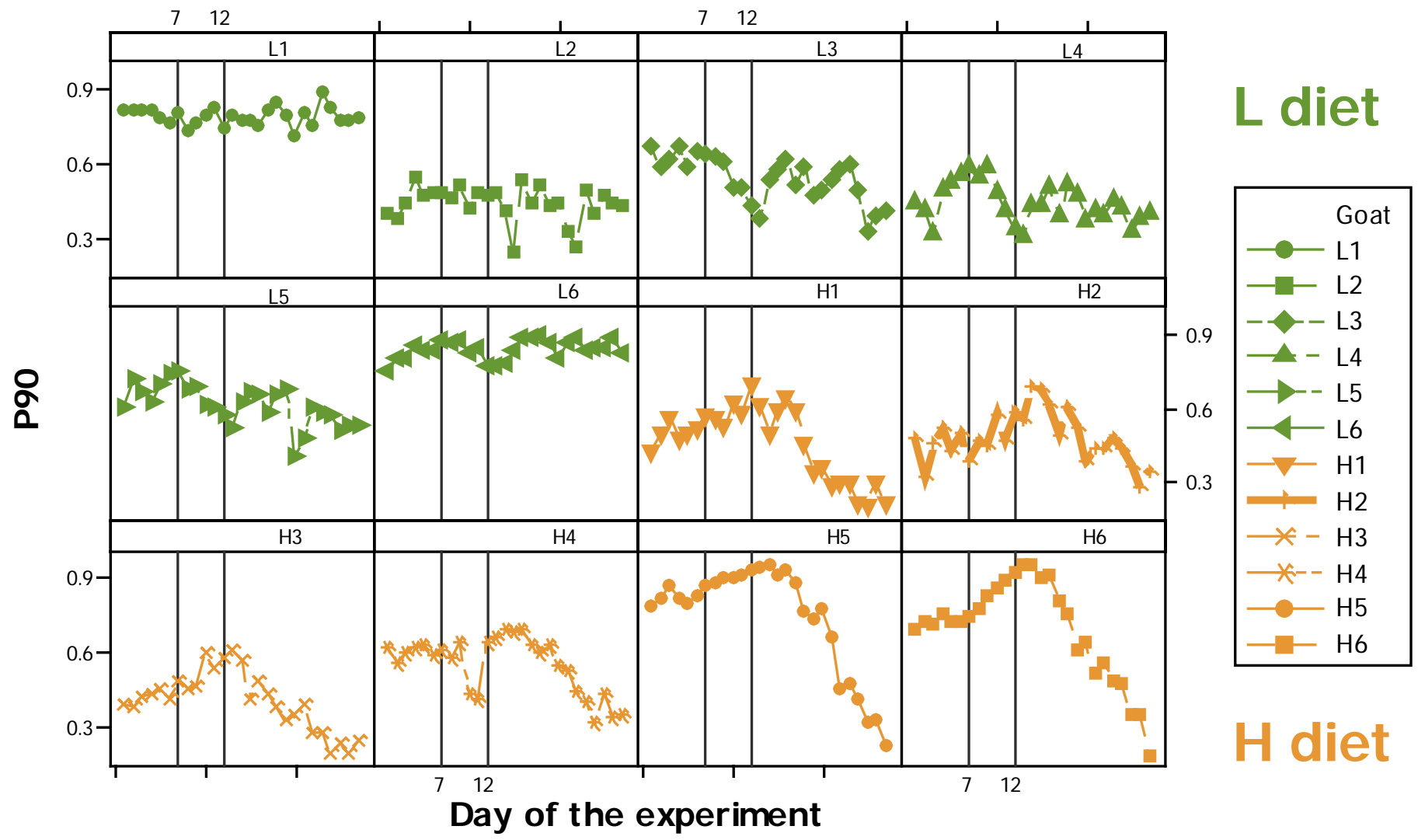
(example for one goat receiving the L experimental diet)







# Evolution of P90 with the change in concentrate percentage



L diet

H diet

# Conclusion

Feeding behavior estimated by the P90 index was quickly modified after the change in dietary concentrate percentage.

With a lower concentrate percentage, P90 decreased because forage intake rate is lower than concentrate one.

With a higher concentrate percentage, some of the goats increased their fractional intake rate, but this increase was followed by a greater decrease in fractional intake rate probably in order to face a subacute ruminal acidosis.

More work is needed to better understand the deconstruction of feeding behavior in goats when facing subacute ruminal acidosis.



Thank you for your attention

# Diets composition

## Roughage part:

- ✓ Dehydrated alfalfa (45 %)
- ✓ Grass hay (55 %)

## Concentrate part:

- ✓ Compound feed (70 %)
- ✓ Pressed sugar beet pulp (30 %)

% DM	Diet L (35 % conc)	Diet H (70 % conc)
CP	16.7	17.7
NDF	40.9	36.0
ADF	24.4	20.1
ADL	3.9	3.0
Starch	4.4	9.7
Ash	8.5	8.4

(Serment et al., 2011, JDS, 94, 3960-3972)

# On the same trial

**Serment, A., Schmidely, P., Giger-Reverdin, S., Chapoutot, P., Sauvant, D., 2011.**  
Effects of the percentage of concentrate on rumen fermentation, nutrient digestibility, plasma metabolites, and milk composition in mid-lactation goats.  
*J. Dairy Sci.* **94**, 3960-3972.

**Serment, A . Giger-Reverdin, S., 2012.**  
Effect of the percentage of concentrate on intake pattern in mid-lactation goats.  
*Appl. anim. Behav. Sci.* **141**, 130-138.