

# Performances of primiparous rabbit does subjected of dietary restriction during gestation

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## Introduction

The *ad libitum* feeding of rabbit does, especially in the first production cycle can lead to obesity and may cause reproductive problems and increasing mortality in the first parturition.

Dietary restriction during certain periods of does development can be advantageous. Reducing this problem and saving on feeding costs.

## Objective

Dietary restriction was applied to two groups of nulliparous does between the 4th and 25th day of gestation.

# Material and methods



## Animals:

- 60 nulliparous rabbits does with 18 weeks (NZ X C)
- 2 groups (30 animals/group)

## 2 Treatments with a dietary restriction (25%)

- **R7D** - feed restriction every days (136g/d)
- **R6F** – feed restriction in 6 days (159 g/day) and 1 day of fasting

From 4th to 25th day of gestation. Other days - feed *ad libitum*

## Material and methods



### Measurements:

Litter weight:

- at birth, 11 and 20 days postpartum and at weaning

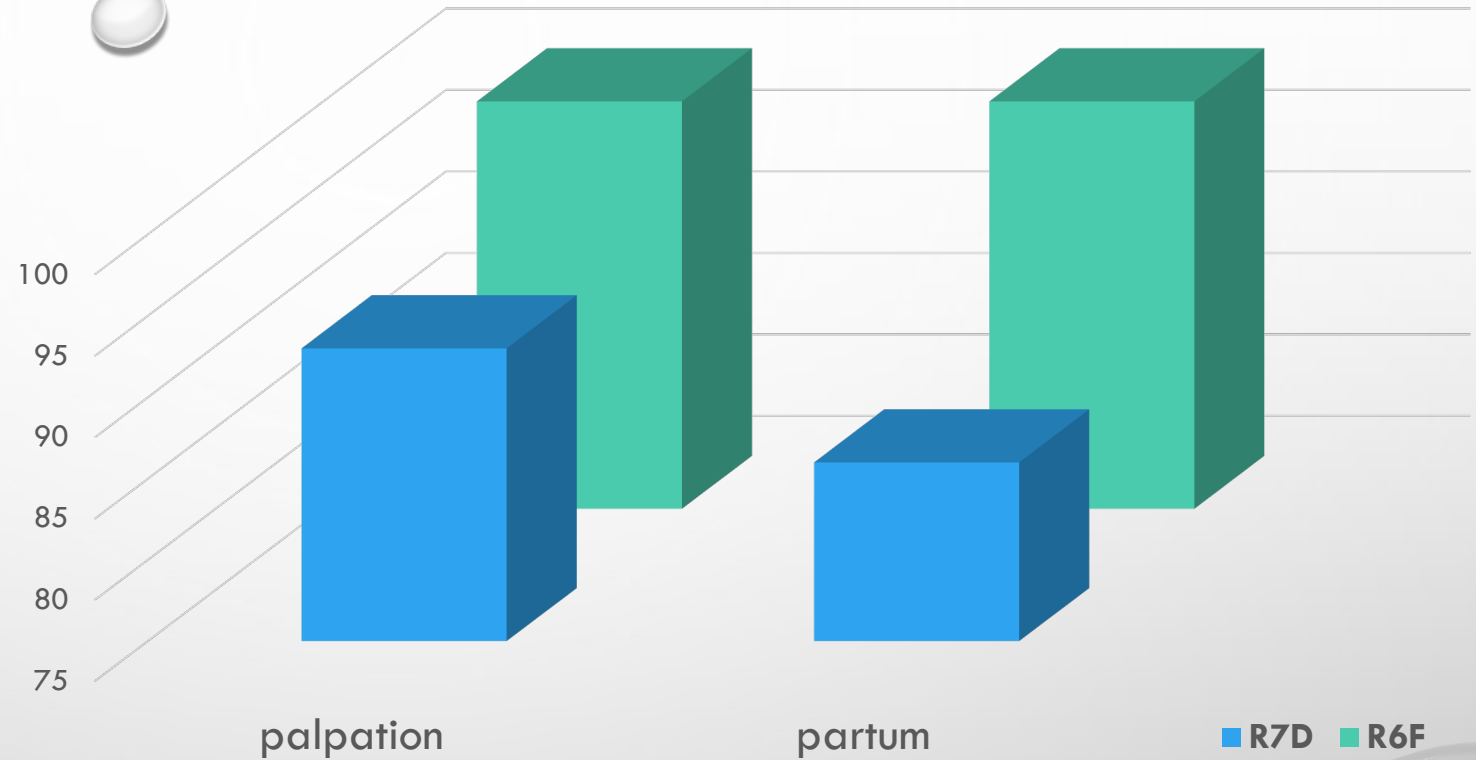
Rabbit does weight:

- at partum, 11 and 20 days postpartum and at weaning

Were monitored:

- Rabbit does fertility and the daily mortality of pups

## Results - Fertility



In **R6F** group

At partum the fertility significantly ( $P < 0.05$ ) **increased** from 86% to 100%.

## Results – Live weight of rabbits and litters

|                      | Treatment |        | P            |
|----------------------|-----------|--------|--------------|
|                      | R7D       | R6F    |              |
| <b>Litter Weight</b> |           |        |              |
| At birth             | 577.3     | 583.5  | ns           |
| Day 1                | 592.0     | 594.4  | ns           |
| Day 11               | 1823.7    | 1724.9 | ns           |
| Day 20               | 2944.7    | 2853.7 | ns           |
| Weaning (34d)        | 7665.4    | 7716.4 | ns           |
| <b>Rabbit weight</b> |           |        |              |
| Day 1                | 53.8      | 54.0   | ns           |
| Day 11               | 172.8     | 168.2  | ns           |
| Day 20               | 285.4     | 285.0  | ns           |
| Weaning (34d)        | 747.2     | 788.9  | <b>0.045</b> |

In the Rabbit **R6F** group

Live weight at weaning (34 d of age) was significantly ( $P=0.045$ ) **higher** (more 41 g)

## Results – number of rabbits

|               | Treatment |      | P    |
|---------------|-----------|------|------|
|               | R7D       | R6F  |      |
| Live birth    | 11.0      | 11.5 | ns   |
| Death birth   | 0.64      | 1.43 | ns   |
| Total birth   | 11.6      | 13.0 | 0.07 |
| Day 1         | 11.0      | 11.0 | ns   |
| Day 11        | 10.6      | 10.3 | ns   |
| Day 20        | 10.3      | 10.1 | ns   |
| Weaning (34d) | 10.2      | 9.9  | ns   |

In the Rabbit **R6F** group

Prolificity increased ( $P=0.07$ ), from 11.6 to 13.0 total births



## Results – gestation time

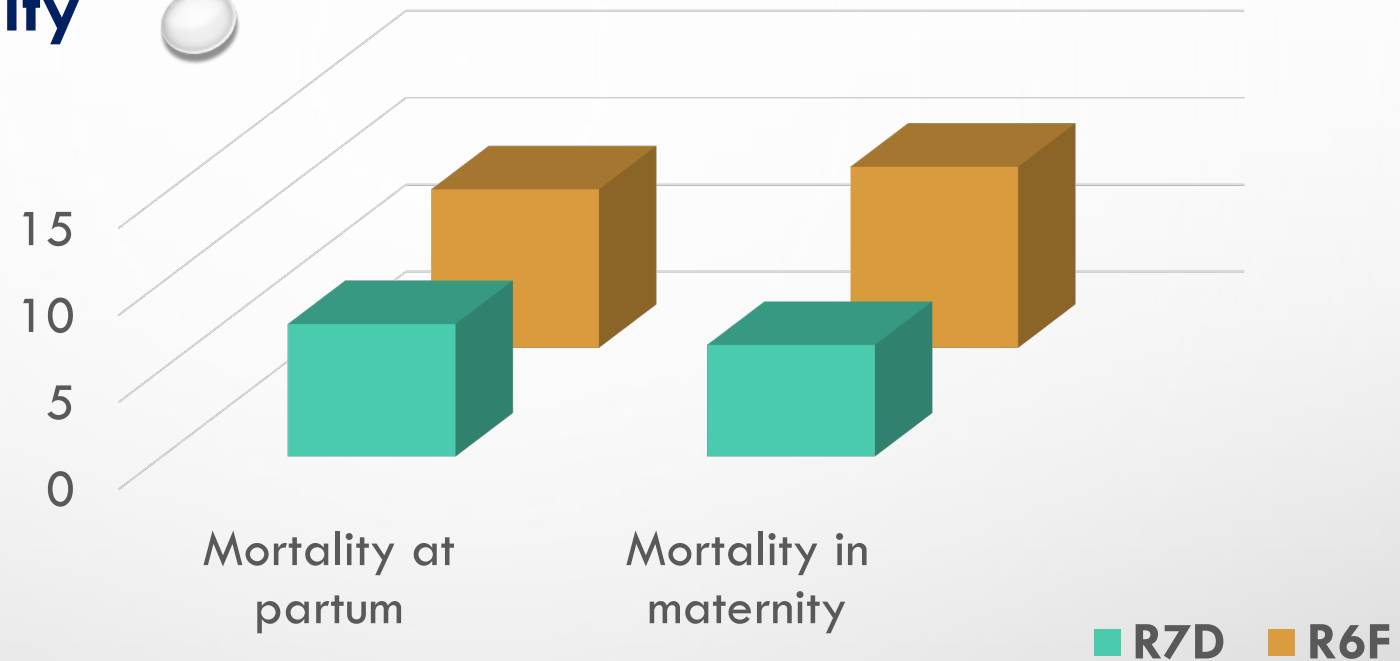
|                    | Treatment |       | P     |
|--------------------|-----------|-------|-------|
|                    | R7D       | R6F   |       |
| Gestation time (d) | 30.1      | 29.9  | ns    |
| Gestation time (h) | 726.6     | 719.9 | 0.052 |

In the **R6F**

Gestation time showed a tendency ( $P=0.052$ ) to decrease approximately 7 hours



## Results – Pups mortality



Mortality of the pups during the suckling period did not differ and remaining around 8.5%, but it's 3.7% higher in the group R6F.

## Conclusions

Implementing a fasting day during the gestation period in nulliparous does improves fertility and not change the others parameters.

This practice can make rabbit farming easier.



# Considerations

## In future work

- complement with other measurements: milk, blood ...
- productive longevity
- productivity in the following cycles



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