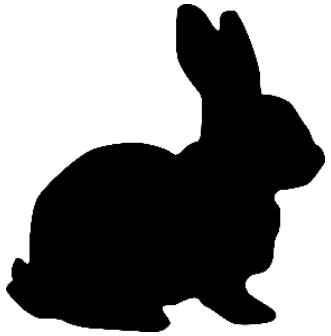
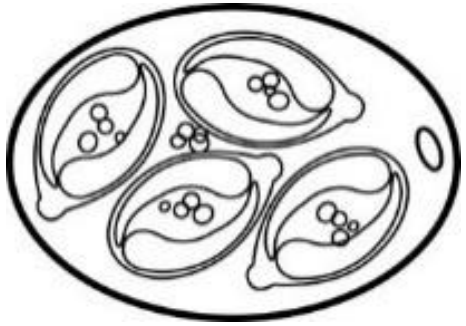




Coccidiostatic Effects Of Tannin Rich Diets In Rabbit Production

H. Legendre, K. Saratsi, N. Voutzourakis, A. Saratsis, A. Stefanakis, P. Gombault, H. Hoste, T. Gidenne and S. Sotiraki

livestock farming

a different philosophy of production

01

seek a method of production, that does not exhaust natural resources

02

respect the planet that hosts us (producers and consumers)

03

avoid chemical inputs (seek for alternative solutions)

research during the last decades has been focused on the antiparasitic effect of bioactive plants which are rich in condensed tannins

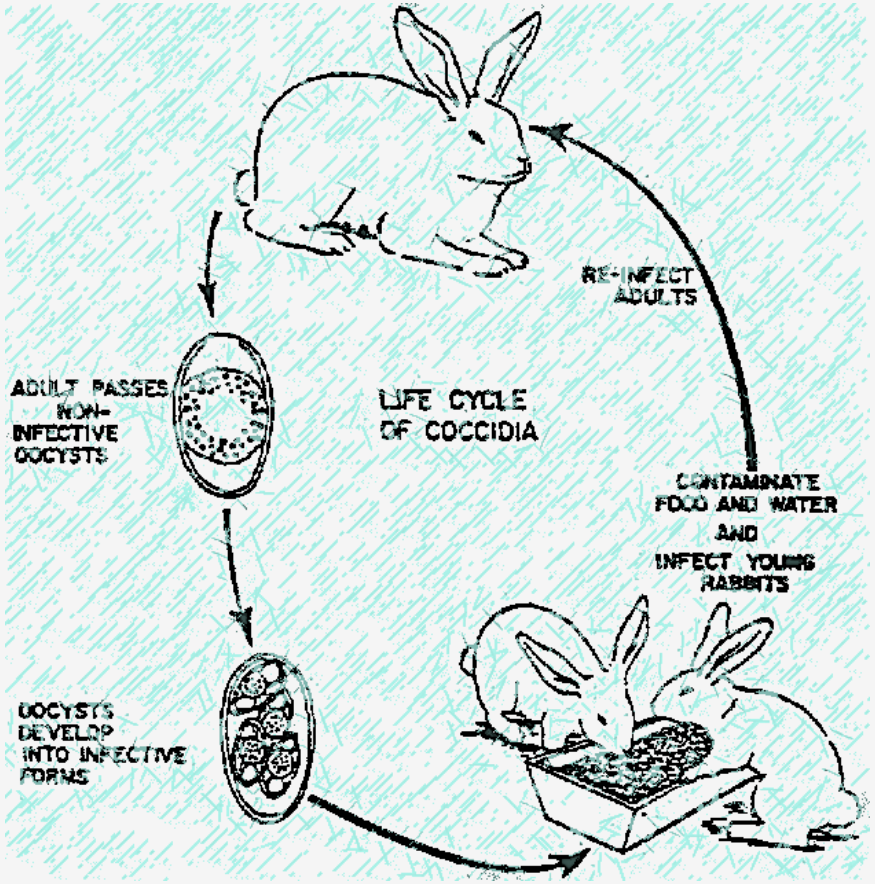
condensed tannin rich feed sources

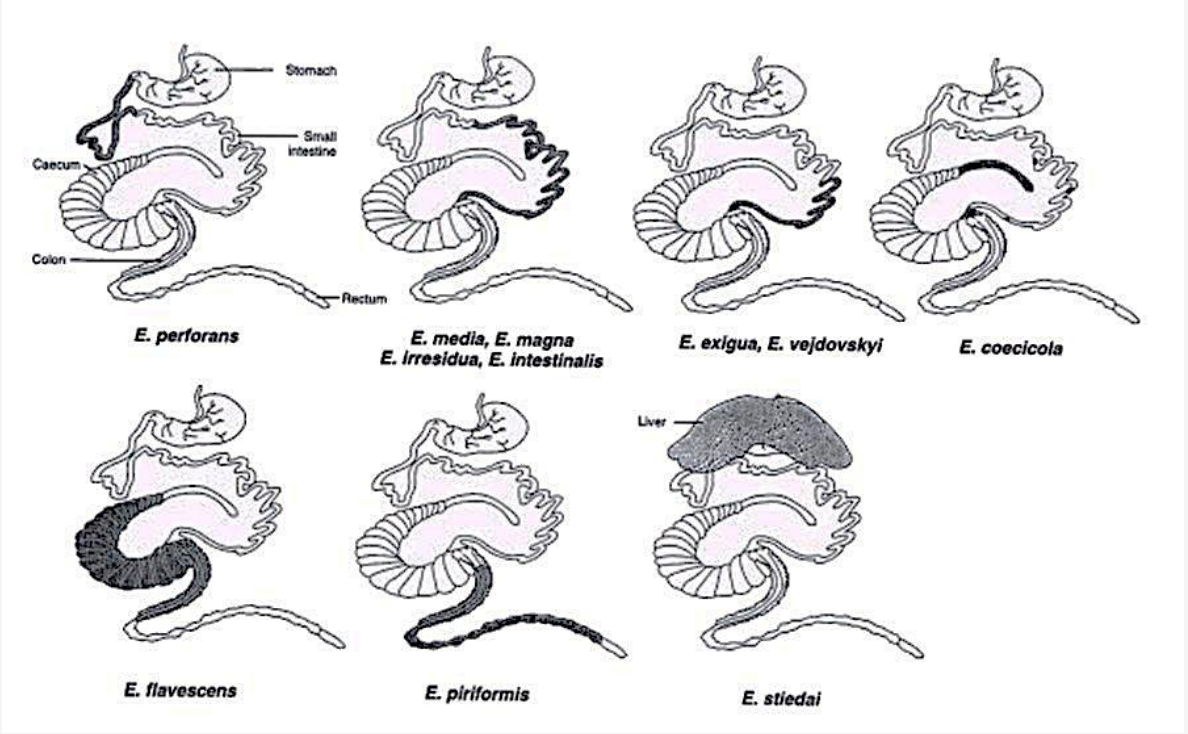
Sainfoin

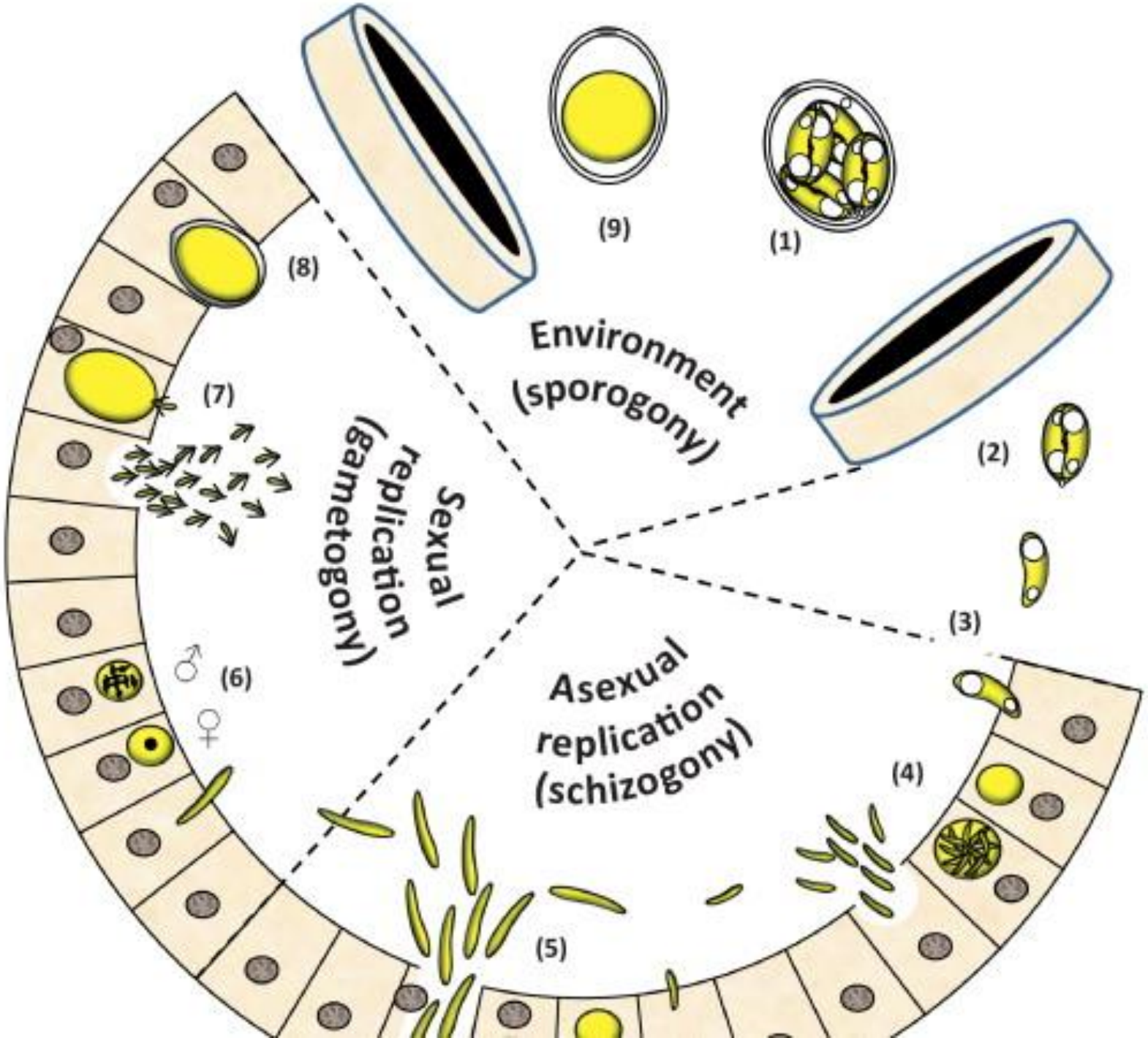
Hoste *et al.* (2014,2015), Saratsis *et al.* (2016),…

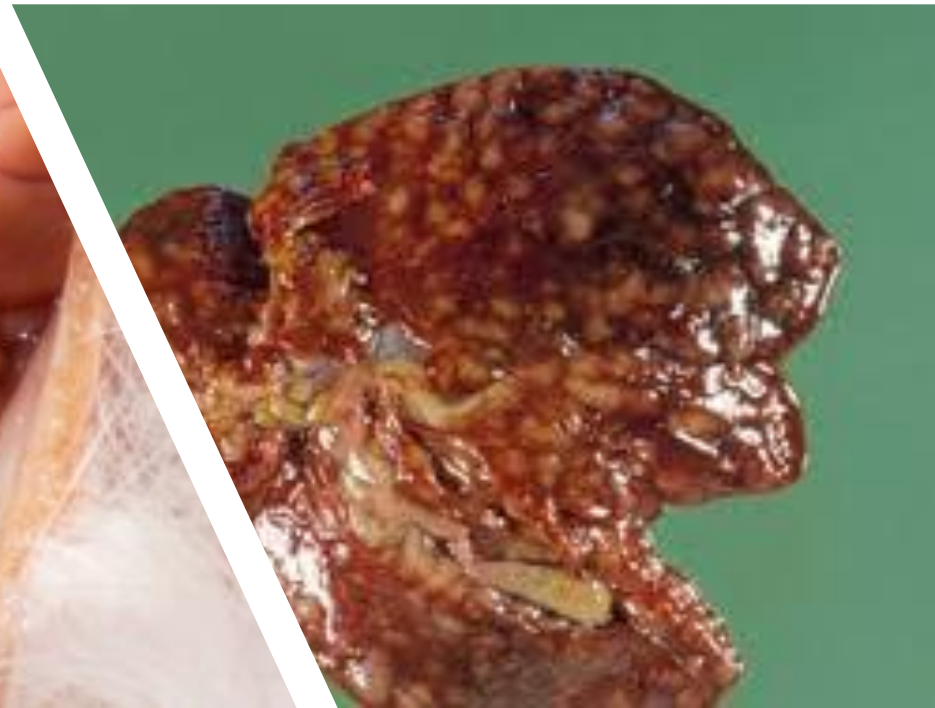
- Condensed tannins:
  - Plant Secondary Metabolites (produces under stress);
  - Bind with proteins when pH 4-7 ;
- Positive effects on Ruminants:
  - Biology disruption of Nematodes and Coccidia,
  - Preservation of the zootechnical performances;
- Possible alternative to coccidiostatics for rabbits (monogastric herbivore) ?

Coccidiosis in rabbits

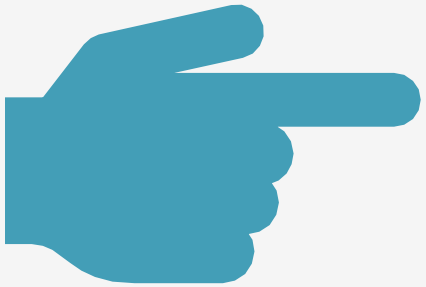





(9)
(1)
(8)
Environment
(sporogony)
(7)
(2)
Sexual
replication
(gametogony)
(3)
♂
(6)
♀
Asexual
replication
(schizogony)
(4)
(5)



design



- commercial rabbit farm
- 24 does were enrolled at parturition with their litters (D0)
- 3 groups receiving different diets
  - control (Group CO),
  - carob (containing 10% carob pods meal) (Group CP)
  - sainfoin (containing 34% dehydrated sainfoin pellets) (Group SA).
- isoproteic and isoenergetic diets, balanced for crude fibre but differed by their tannin content.
- weaning at D37, and growing rabbits remained in the same cage until D51. Then, they were transferred to fattening cages until the end of the trial (D104) and slaughtering.

Protocol

With natural eimeria infection

Feed

8 litters Control 0,7 % tannic acid eq.

8 litters Sainfoin 1,2 % tannic acid eq.

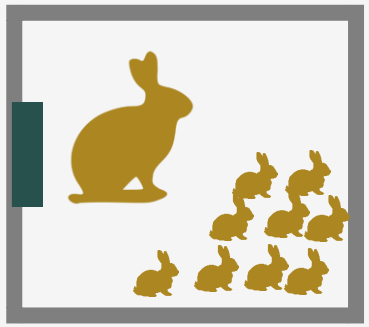
8 litters Carob 0,9 % tannic acid eq.)

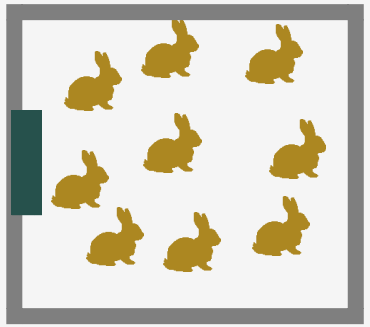
Slaughter 104 days

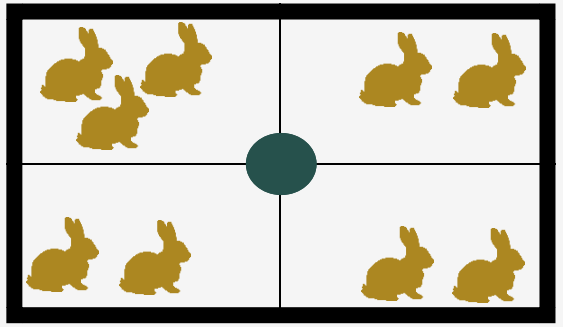
Birth

Weaning at 37 days

Transfer to fattening cages at 50 days







Fecal oocyst counts (FOC) 1 to 2 times a week using modified McMaster

Mortality/Growth

maternity

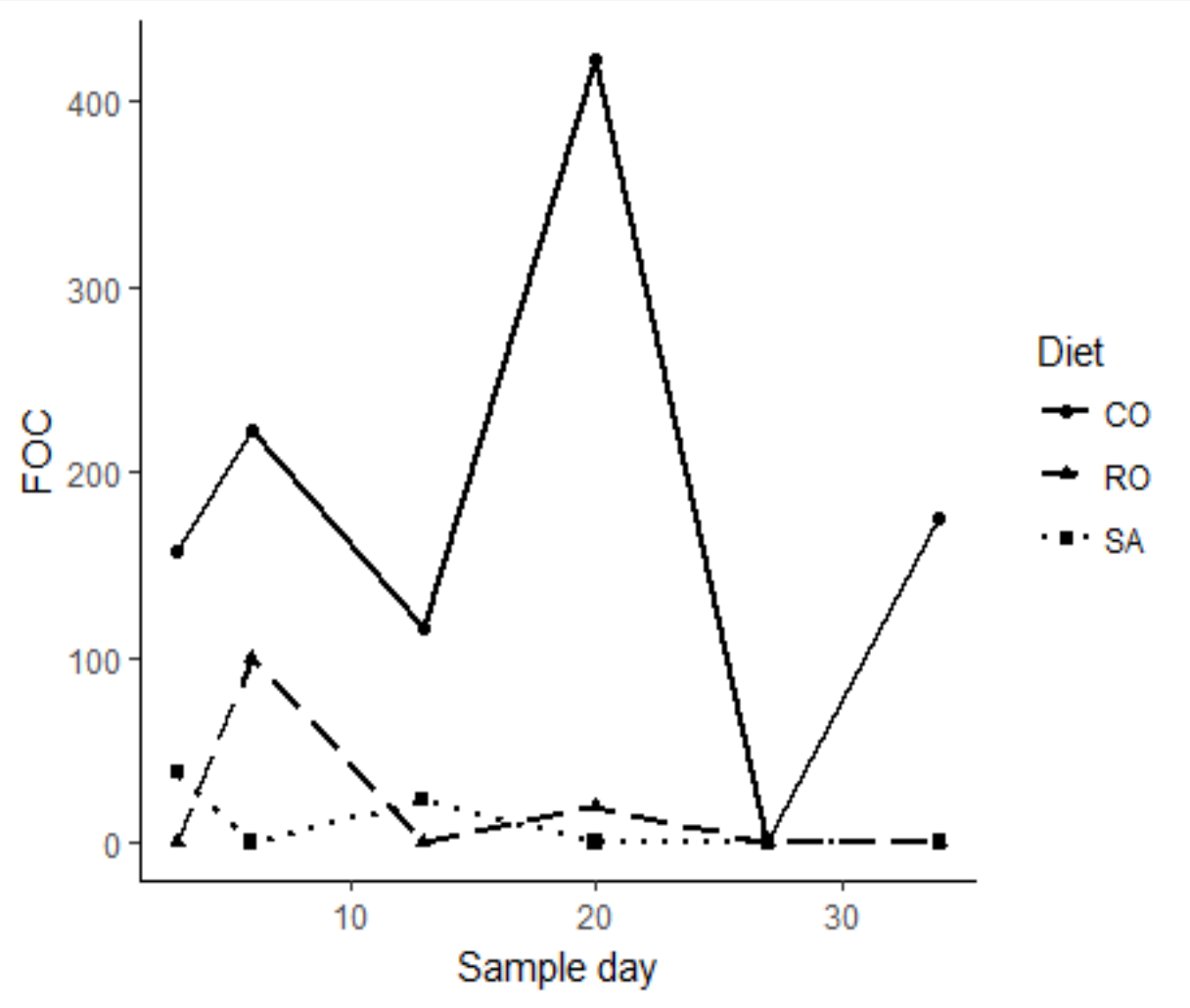
fattening

infection was achived to all groups

***E. magna* was the dominant species**

***Eimeria* species with "median-shape" oocysts (e.g *E. perforans*, *E. media*, *E. coecicola* and *E. vejdovskyi*) were also present in large number**

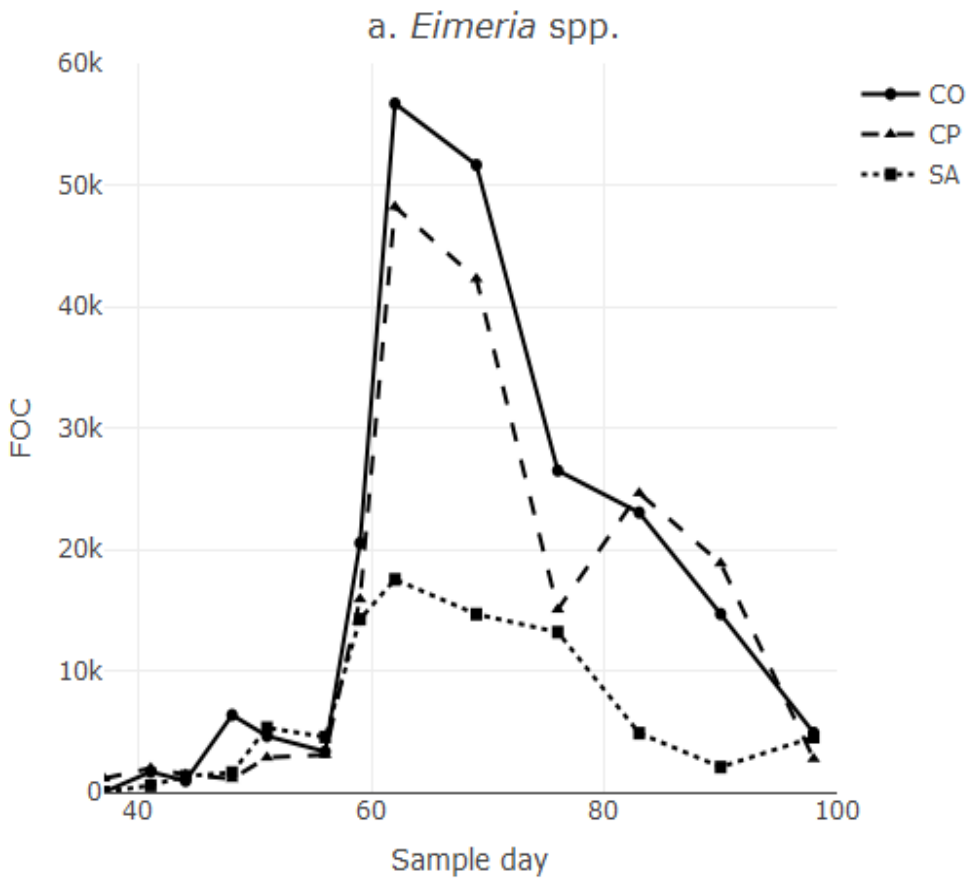
diarrhoea was not present

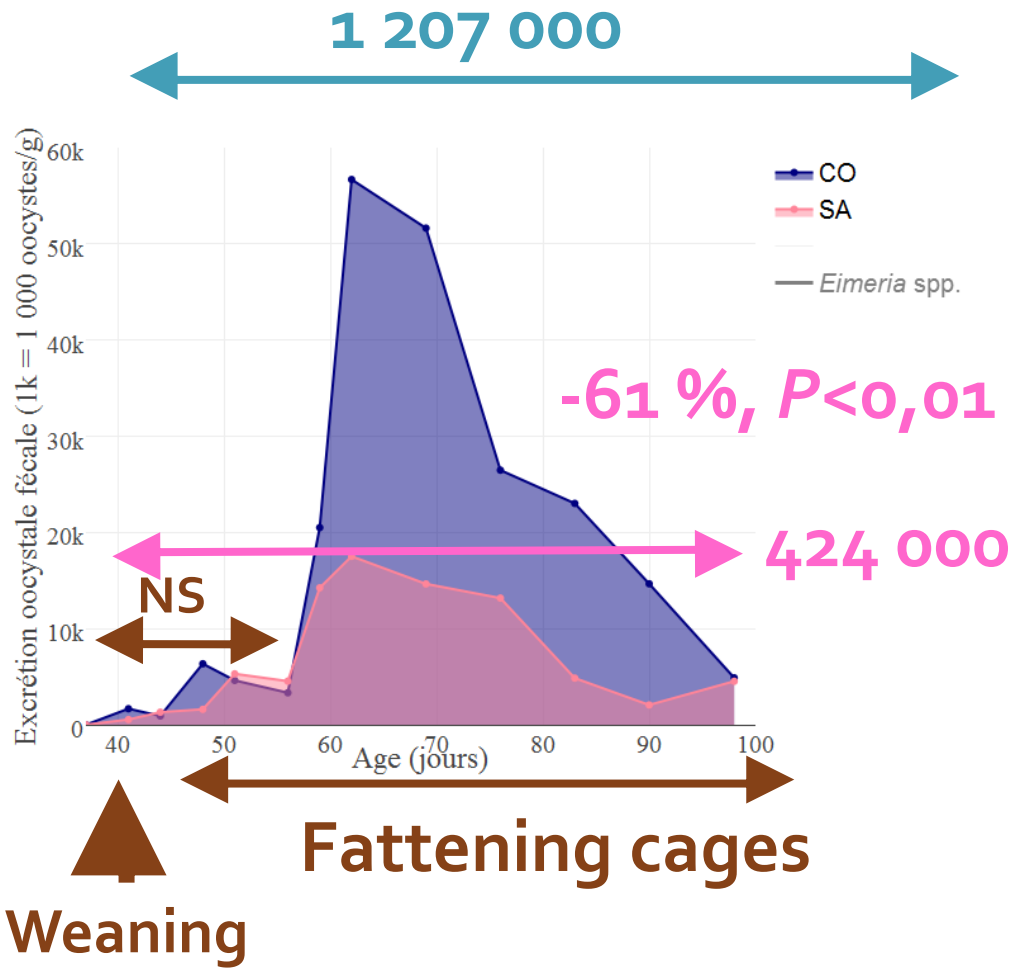


oocysts from does

- CO group: 6/8 does (range 120 to 3,380 oocysts/g)
- Carob group 1/8 (range 160-800 oocysts/g) and
- Sainfoin group 3/8 (range 20-260 oocysts/g)

opg - *Eimeria spp*

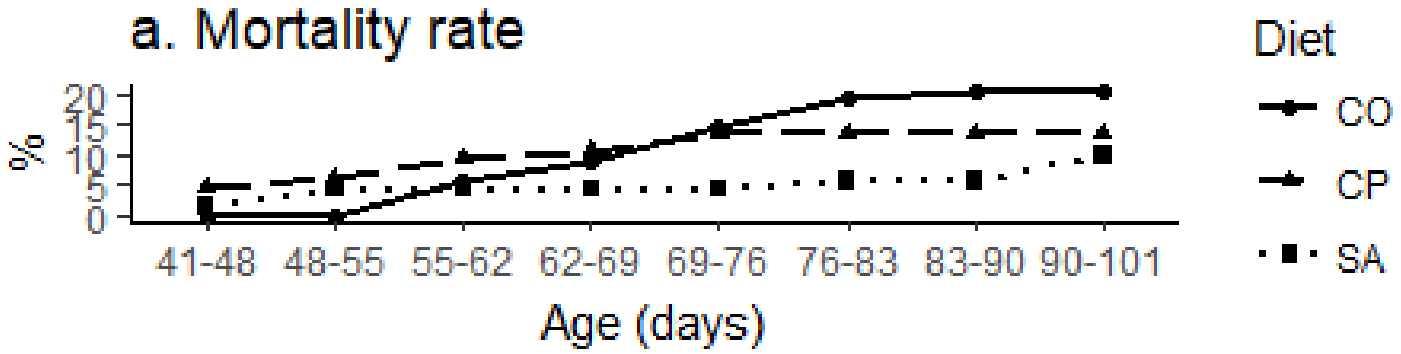


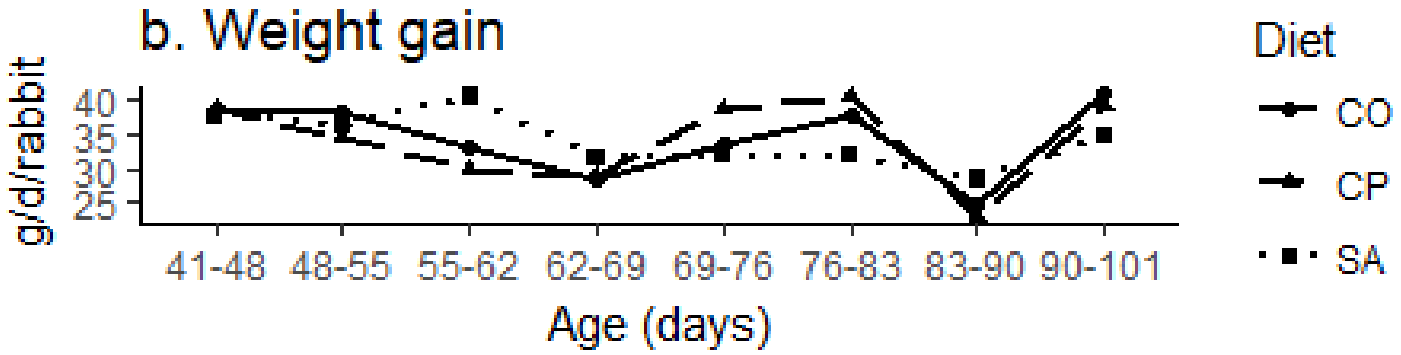


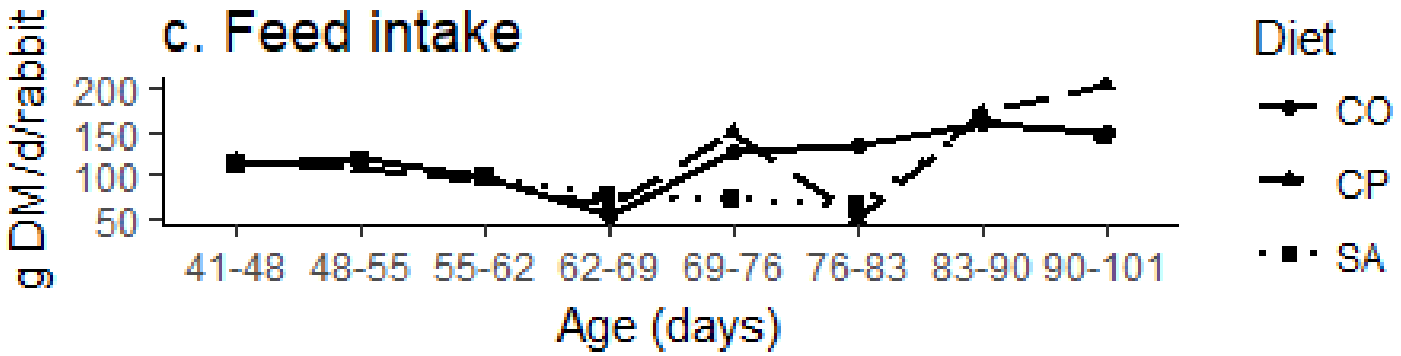
2 peaks observed

around weaning (from D37 to D51), related to the ingestion of oocysts released by the does, and to the stress of weaning;

from D51 to D98, linked to the ingestion of oocysts from the environment of the fattening cages, + stress of transfer to fattening cages.







10% (SA)- 15% (CP) and 20% (CO)

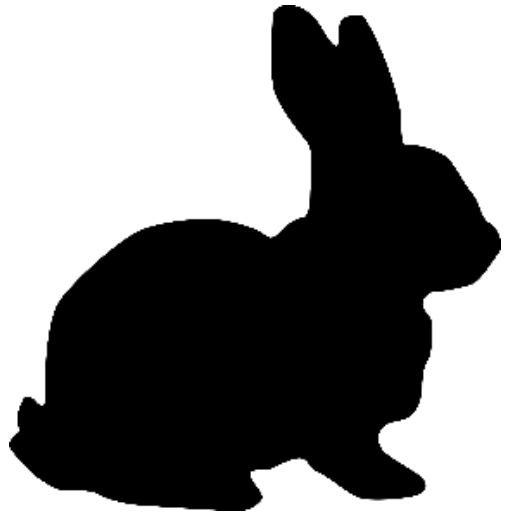
economical FCR from weaning to D101 was reduced 0.58 points between rabbits of group SA (3.85) compared to CO (4.43, $P < 0.01$), and by 0.39 points compared to CP (4.24, $P<0.01$)

✓ **incorporation of sainfoin in a balanced diet of rabbit does and weaned rabbits, has been associated with a lower oocyst excretion of *Eimeria* species by 60%**

CONCLUSIONS

✓ ***the feed efficiency was improved, and the mortality rate was reduced by 50% when compared to the control group***

✓ **carob looks like it has potential still more research is required**



thank you for your attention

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