Feeding strategies by wolves in agricultural landscapes:

lessons from two areas in Portugal

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Insights from wolves in agricultural landscapes of Portugal
        wolves survive in areas with domestic animals
        under different husbandry conditions

Focusing on two areas, this study aims to quantify:

i) wolf diet
(frequency of occurrence in wolf scats, F.O.)

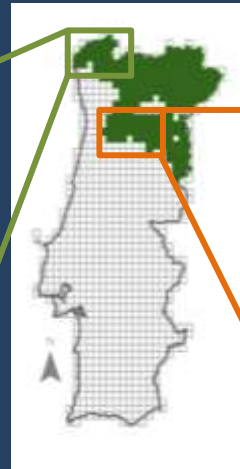*ii*) selectiveness towards domestic ungulates
(using verified wolf kills; Ivlev's electivity index, E)

iii) kill rates on domestic ungulates
(using verified wolf kills; nº kills/wolf/year and Kg/wolf/day)

Peneda-Gerês

South Douro

Low forest cover (~20% forest)

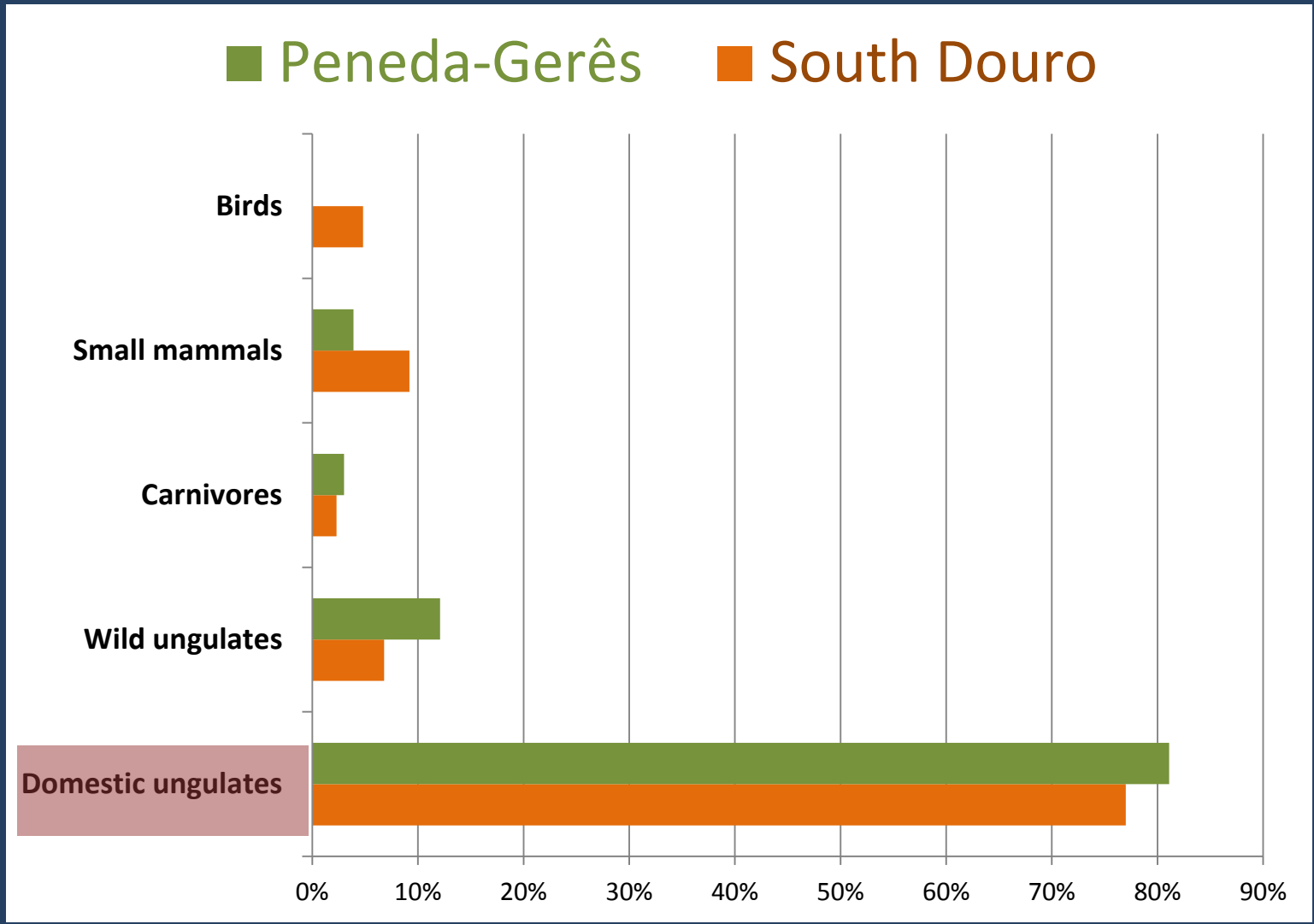Low availability of wild ungulates

(2 species ; < 1,5 indiv./km²)
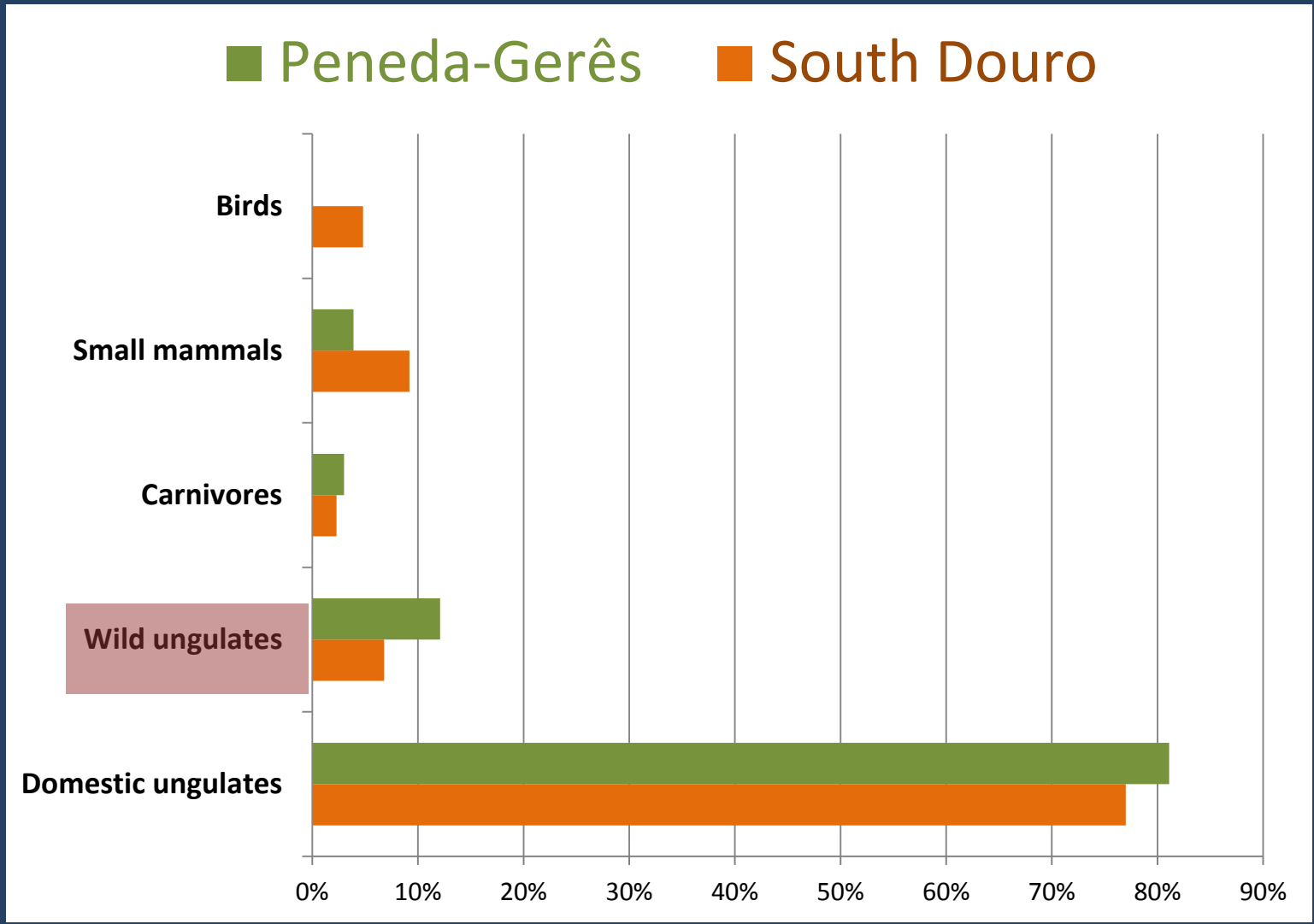
High availability of livestock

Extensive grazing
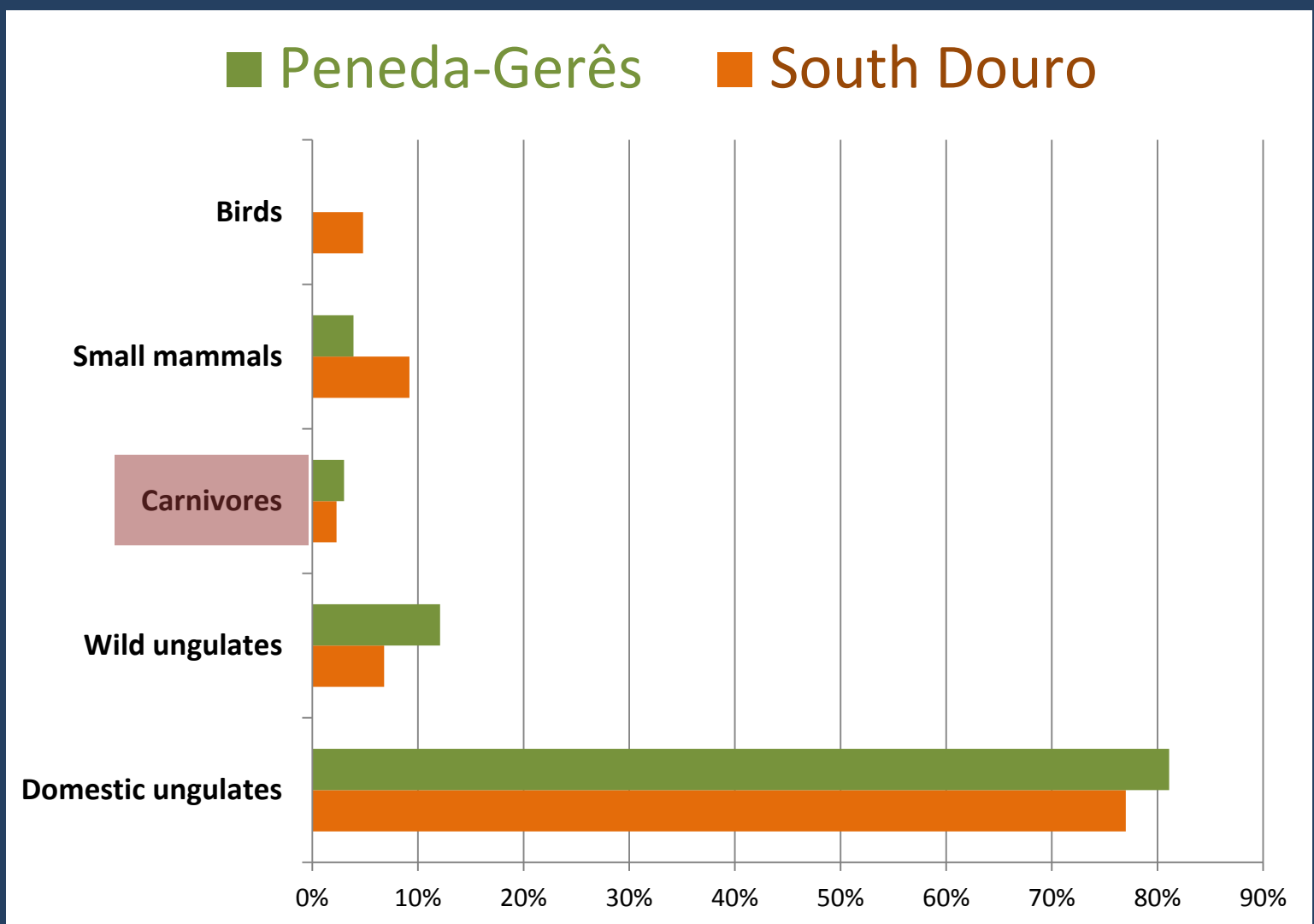
(4 ungulate species; ≈ 50 ind./km²)

Intensive production farms
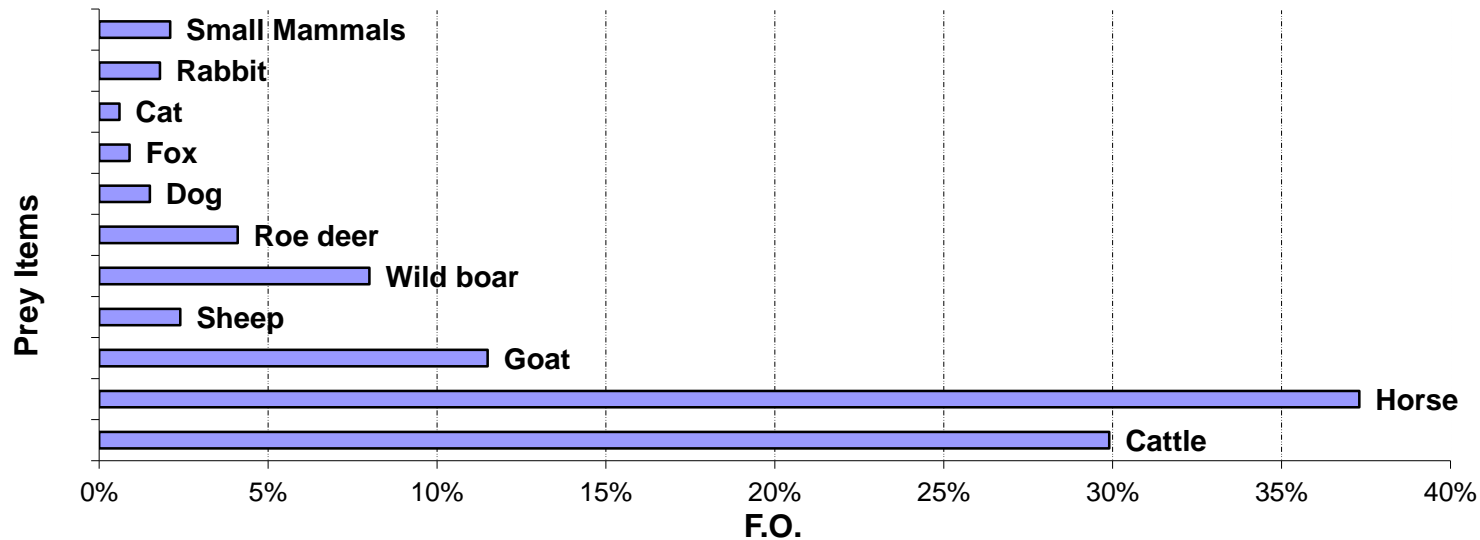
(poultry, rabbits, pigs; ≈ 350 ind./km²)

Peneda-Gerês   South Douro

- Feed mainly on domestic ungulates

Peneda-Gerês ■ South Douro ■

- Low consumption of wild ungulates

Peneda-Gerês   South Douro

- Consumption of carnivores, mainly dogs

DIET

PENEDA-GERÊS

Prey Items (F.O.):
- Small Mammals
- Rabbit
- Cat
- Fox
- Dog
- Roe deer
- Wild boar
- Sheep
- Goat
- Horse
- Cattle

SOUTH DOURO

Prey Items (F.O.):
- Birds
- Small Mammals
- Rabbit
- Fox
- Dog
- Roe deer
- Wild boar
- Pig
- Sheep
- Goat
- Horse
- Cattle
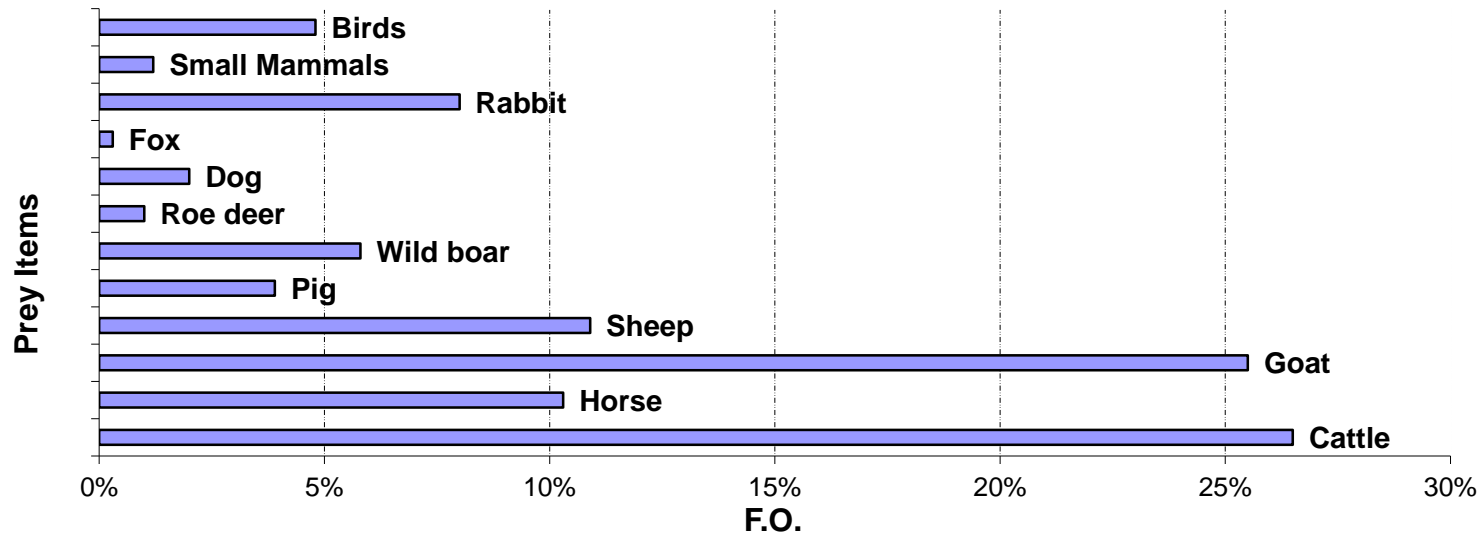
PENEDA-GERÊS: DIET (N=440 scats)

PENEDA-GERÊS

Prey Items (F.O.):
- Small Mammals
- Rabbit
- Cat
- Fox
- Dog
- Roe deer
- Wild boar
- Sheep
- Goat
- Horse
- Cattle

- Wolves rely mainly on cattle and horses (F.O. ≈ 70%)
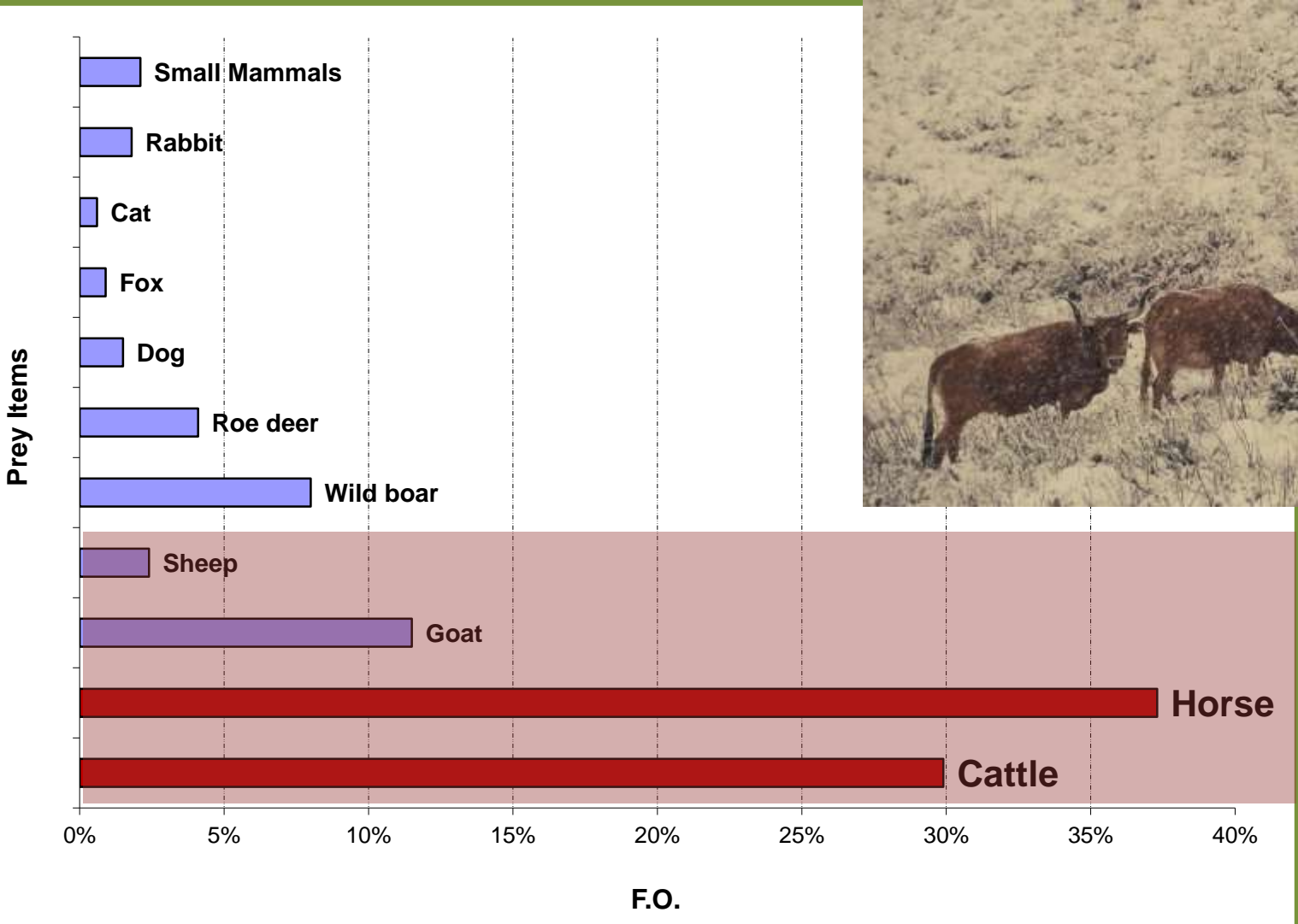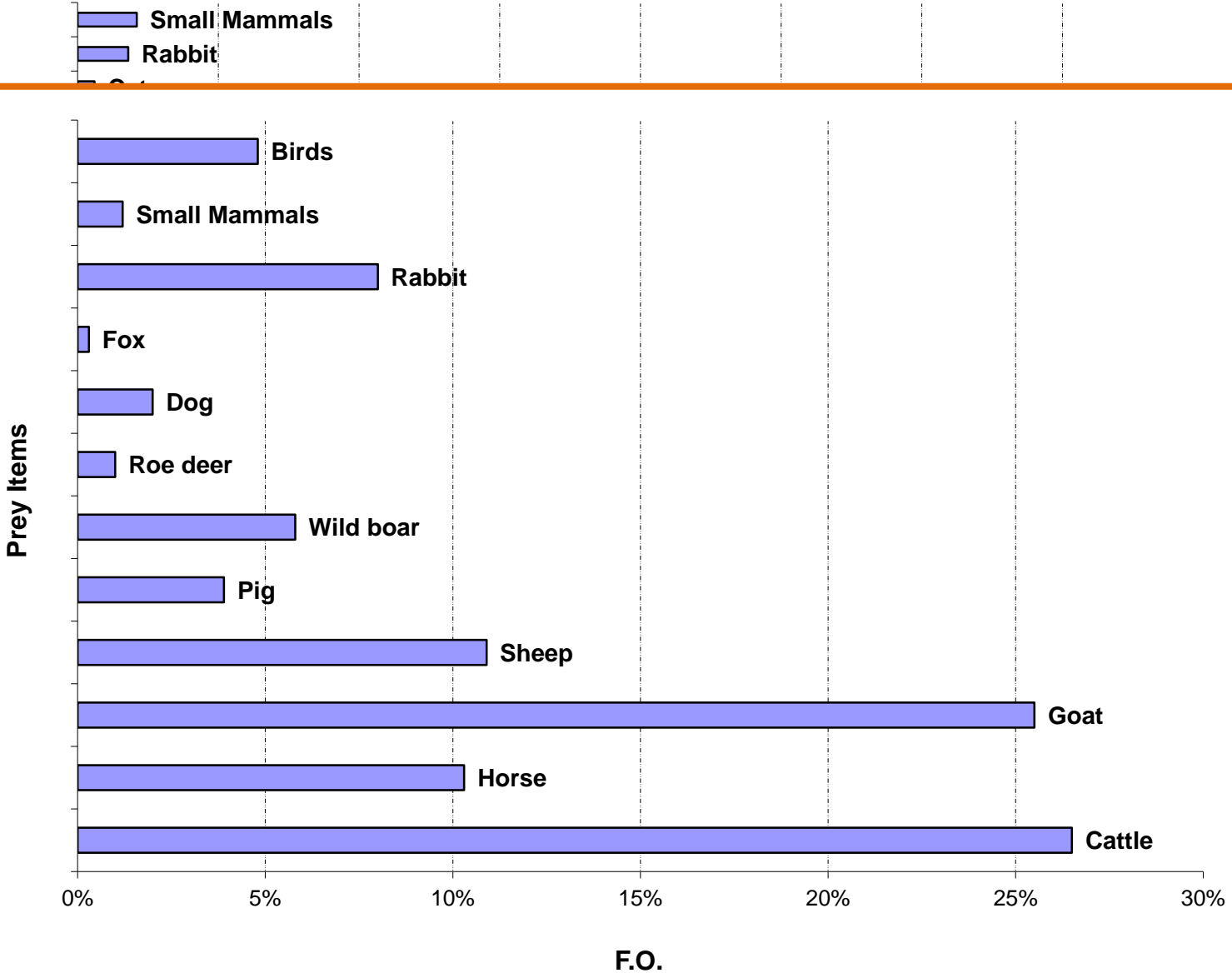
Prey selection
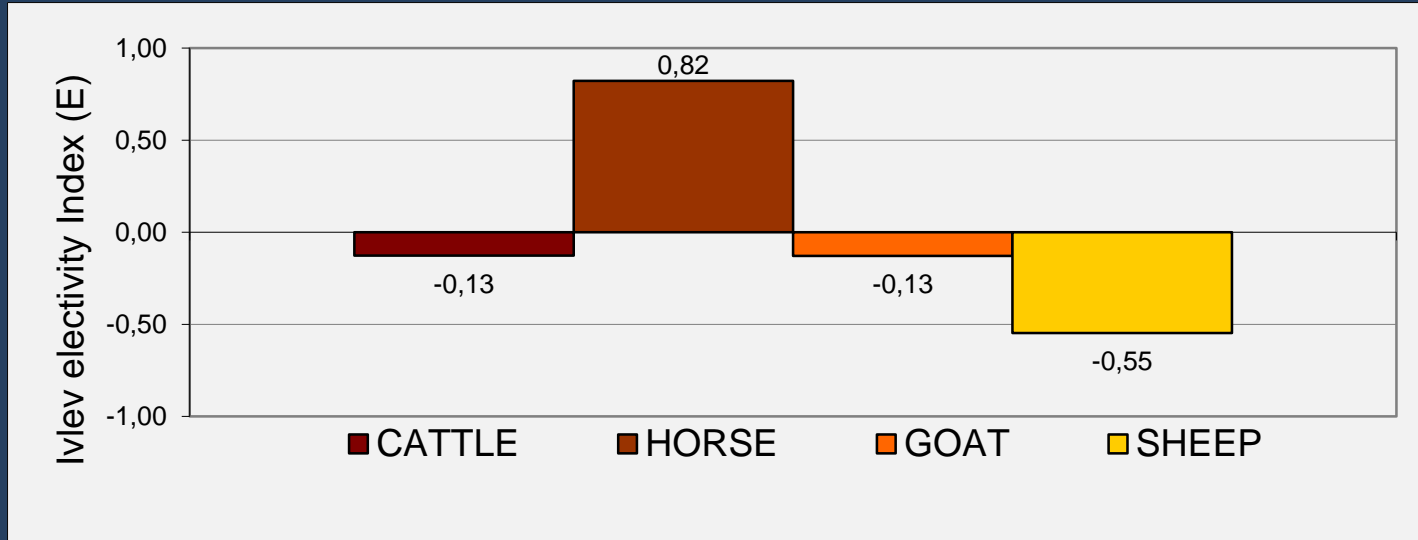
Kill rates

goats/sheep **>** horses **>** cattle

25 kills/wolf/year   10 kills/wolf/year   8 kills/wolf/year

Food consumption rates: 7 kg /wolf/day (min. req. 3.2kg)
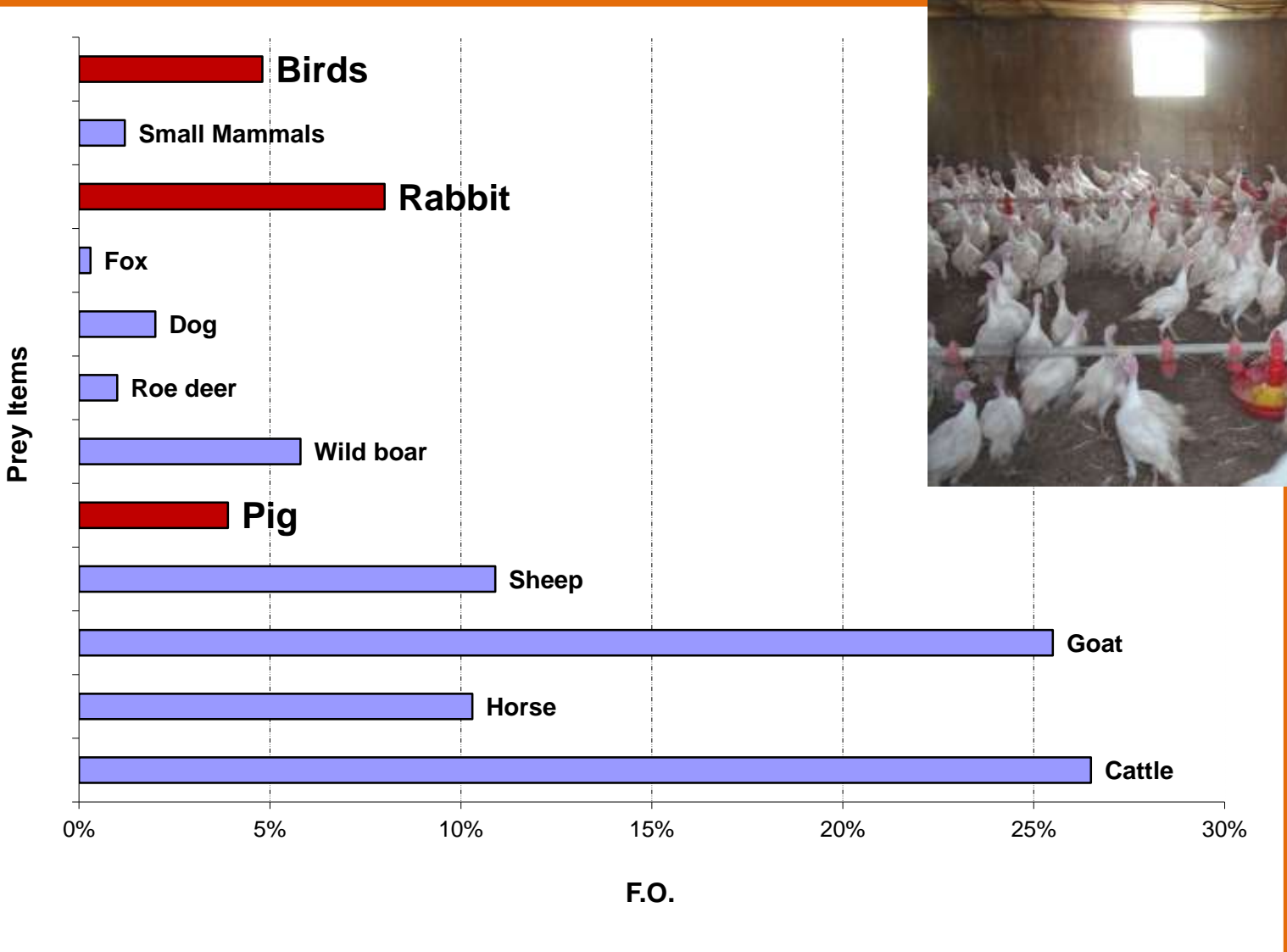
Food intake from predation

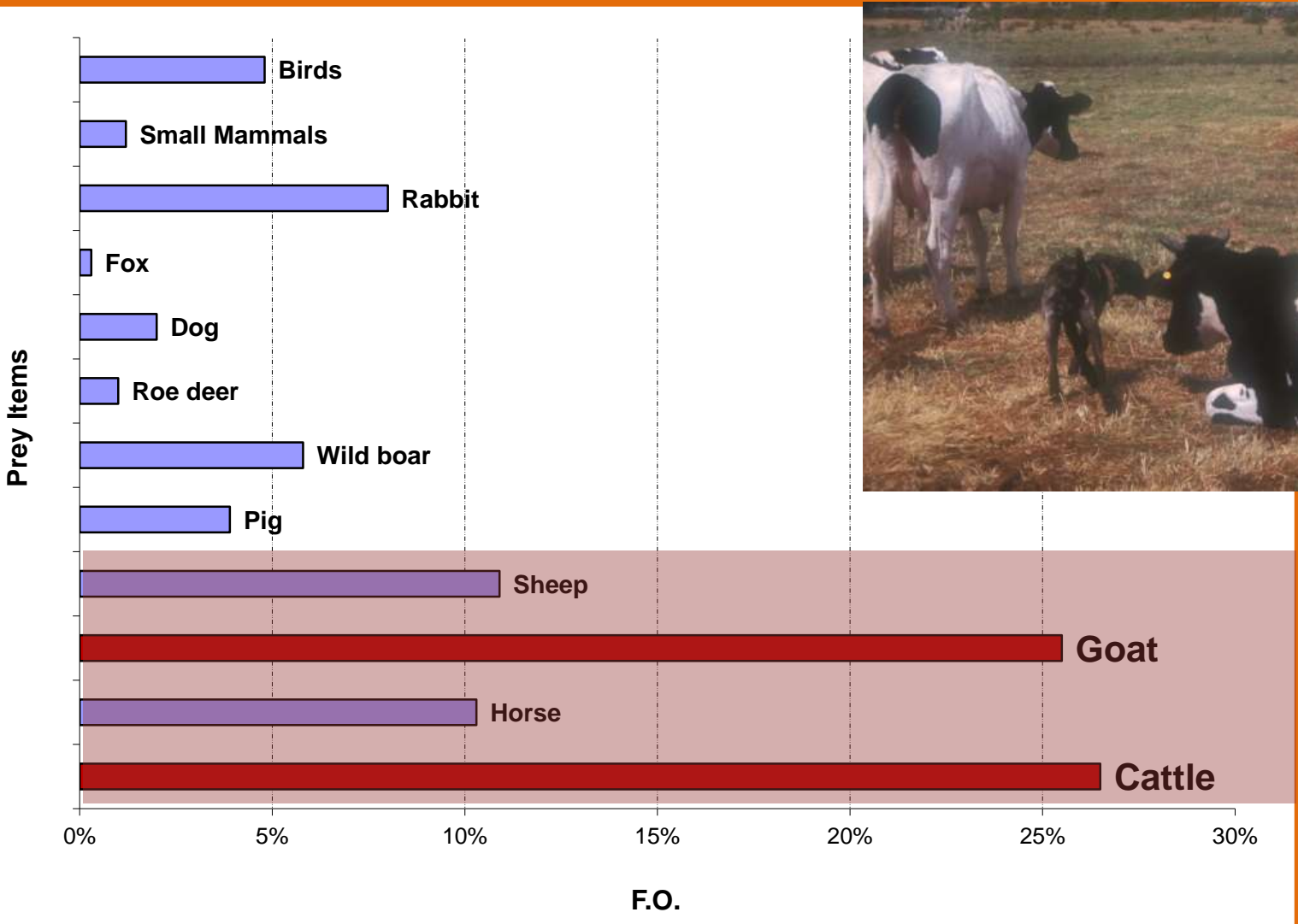# SOUTH DOURO: DIET (N=289 scats)

PENEDA-GERÊS

- Consumption of intensively raised animals (F.O. ≈ 15%)

- Wolves rely mainly on cattle and goats (F.O. ≈ 50%)

Prey selection

Bar chart — Ivlev electivity Index (E):
- CATTLE: -0,70
- HORSE: -0,68
- GOAT: 0,43
- SHEEP: -0,16
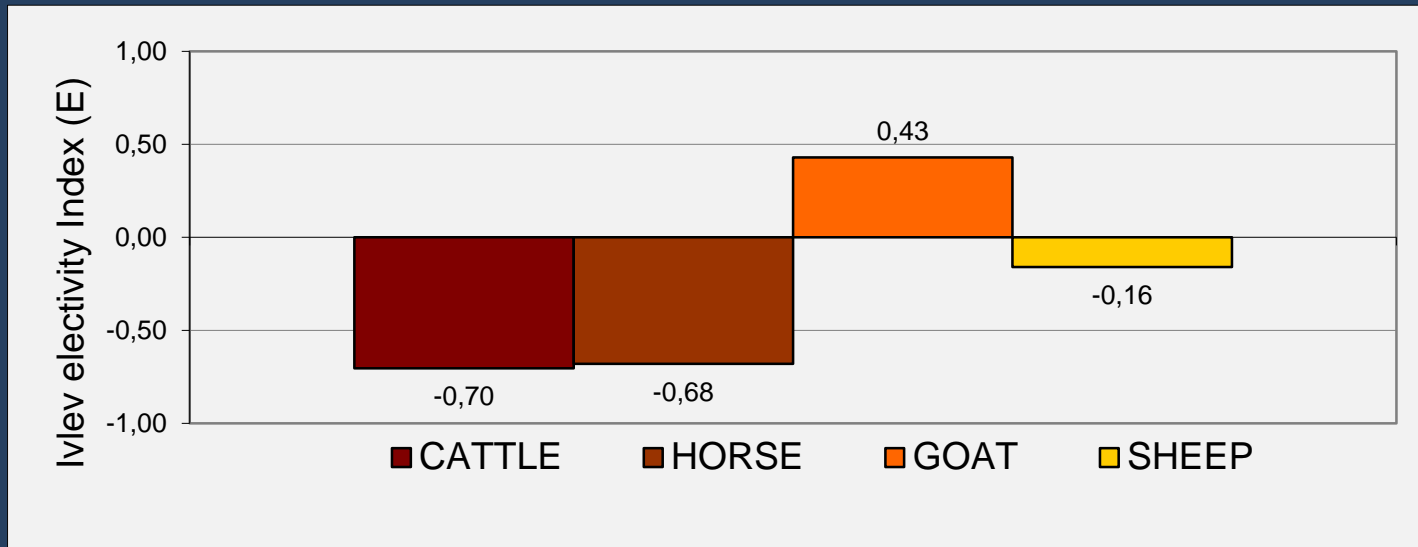
kill rates

goats/sheep > cattle > horses

29 kills/wolf/year   0.9 kill/wolf/year   0.2 kills/wolf/year

Food consumption rates: 2.3 kg /wolf/day (min. req. 3.2kg)

Food intake from predation and scavenging

CONCLUSIONS

High dependence to anthropogenic food resources

	PENEDA-GERÊS	SOUTH DOURO
FEEDING STRATEGY	**Predation on free-ranging horses and cattle**	**Scavenging on products from intensive production farms**
IMPLICATIONS	**High conflict with livestock breeders which leads to a high risk of wolf mortality**	**Localized and unpredictable food source hampering wolf energetic requirements**
MANAGEMENT ACTIONS	**Promote populations of wild prey**	**Promote populations of wild prey**
	Minimize livestock depredation (husbandry practices and herd management)	**Legal support for supplementary feeding**

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