

# A national survey on equine intestinal strongyle infections in Italy and Parasitological Assistance Program in Equids (PAPE)

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## Introduction

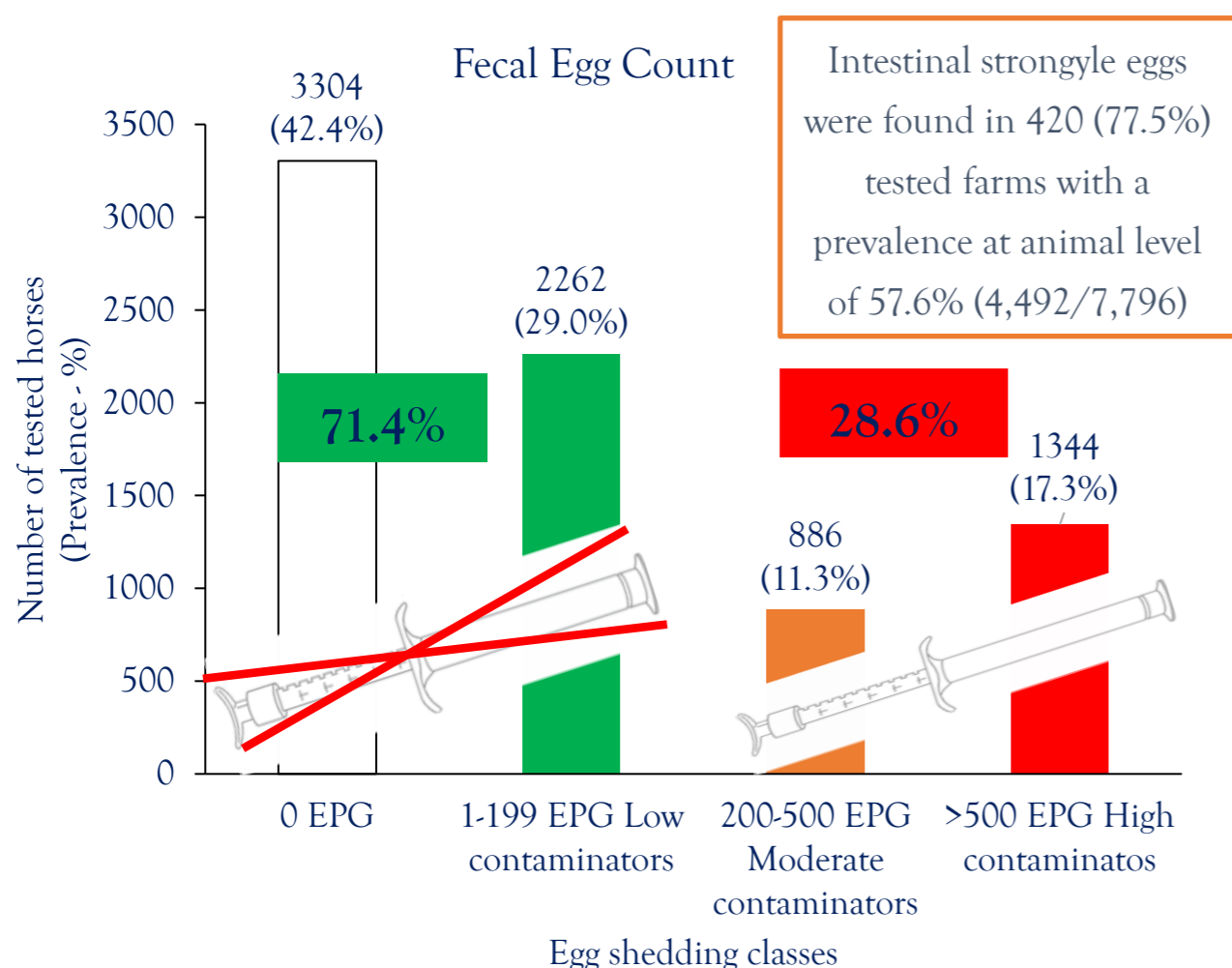
Horses are naturally parasitized by several genus/group of helminths and intestinal strongyles are the most common. The traditional approach to helminths control is based on interval dose program without a diagnosis, furthermore the frequent and reasonless drug use has led to development of anthelmintic resistance. Equine deworming scheme for adult horses is based on strongyle Fecal Egg Count (FEC) and on treatment of horses with FEC > 200 egg per gram of feces (EPG) (Selective treatment). The aims of this work were to carry out a survey on intestinal strongyles in horses in Italy and to propose a veterinary assistance considering a Parasitological Assistance Program in Equids (PAPE) based on coprological diagnosis (FEC).

## Materials and Methods

The study was performed on 7,796 horses bred in 542 Italian farms. Individual FECs were performed using Mini-FLOTAC technique and a Sheather's sugar solution with a specific gravity of 1.250. Individual coprocultures were set up for each horse with FEC > 200 EPG.

Animal details such as age, sex and access to pasture were collected for study horses and analyzed for risk of infections.

## Results



### FEC in relation to age group

Category	N. positive/ N. examined	Prevalence (95% CI)	P-value	OR
≤ 1 year	518/723	71.6 (68.4 - 74.9)	<0.05	2.23
1-4 years	747/1,029	72.6 (69.9 - 75.3)		2.34
> 4 years	2,745/5,168	53.1 (51.8 - 54.5)		Ref
ND	482/876	55.0 (51.7 - 58.3)		1.08

Output of strongyle eggs was lower in horses older than 4 years and EPG values then declined with increasing age of the horse (lack of immunity in young horses).

### FEC in relation to sex

Category	N. positive/ N. examined	Prevalence (95% CI)	P-value	OR
Intact Males	951/1,586	60 (57.6 - 62.4)	<0.05	1.81
Females	2,493/3,898	64.0 (62.4 - 65.5)		2.14
Gelding	1,048/2,312	45.3 (43.3 - 47.4)		Ref

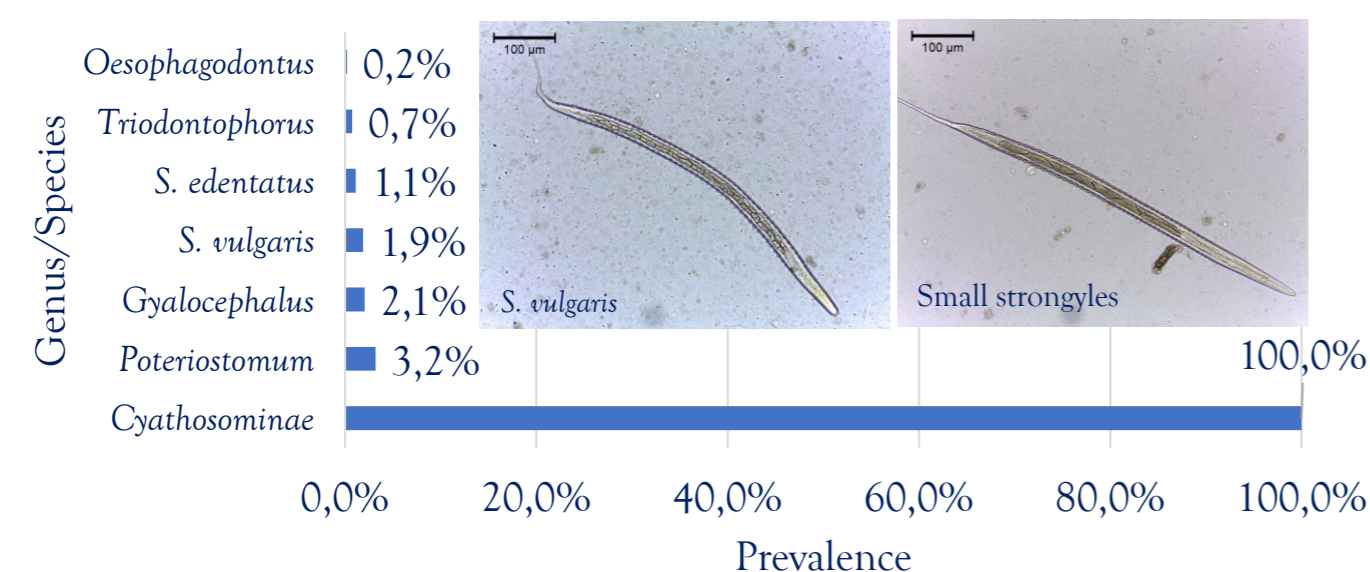
Mares shed more strongyle eggs than stallion and geldings (different access to pasture)

### FEC in relation to access to pasture

Category	N. positive/ N. examined	Prevalence (95% CI)	P-value	OR
YES	2,793/4,438	62.9 (61.5 - 64.4)	<0.05	1.66
NO	1,699/3,358	50.6 (48.9 - 52.3)		Ref

Access to pasture was a risk factor for intestinal strongyles infection

## Coprocultures



## Conclusion

Considering that FEC was < 200 EPG in 71.4% (5,566) of horses, and the low prevalence of large strongyles, only 28.6% should be treated. Veterinarians must play an active role considering a Parasitological Program in Equids (PAPE) based on parasitological monitoring and Selective Treatment suggesting 4 individual FECs/year.

**Parasitological  
Assistance  
Program  
Equids**