

# Prevalence of major enteric pathogens in Turkish dairy calves.

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## INTRODUCTION

Neonatal calf diarrhea represents an important health and welfare issue in many dairy farms around the world, including Turkey.

## OBJECTIVE

The aim of the study was to measure the prevalence of the most important causes of neonatal calf diarrhea: *E. coli* K99, Rotavirus, Coronavirus, *Cryptosporidium* spp. and *Clostridium perfringens* on dairy farms located in 5 geographic regions of Turkey.

## MATERIALS AND METHODS

Study performed between February 2015 and November 2017 on 24 dairy farms located in Aegean, Mediterranean, Southeast Anatolia, Central Anatolia and Marmara.

Feces samples were collected from 1 - 45 days old calves with signs of diarrhea (watery to creamy feces).

An on-farm diagnostic test was used to identify the 5 pathogens of interest in calves with diarrhea (Rainbow Test Bio-K306, Bio-X Diagnostics, Belgium): *E. coli* K99, Rotavirus, Coronavirus, *Cryptosporidium* spp. and *Clostridium perfringens*.

Cryptosporidium spp. and Rotavirus are the predominant agents causing neonatal diarrhea in Turkish dairy herds located in Aegean, Mediterranean, Southeast Anatolia, Central Anatolia and Marmara. Effective control and prevention of these pathogens should be the major focus points in the herds to reduce the prevalence of diarrhea.



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## RESULTS

- ▶ A total number of 280 feces samples were collected and tested.
- ▶ At least one pathogen was identified in 244 out of 280 diarrheic calves tested (87,15%), with more than one pathogen identified in 30.74% of positive samples.
- ▶ The prevalence of isolation of key enteric pathogens is presented in Fig.1.
- ▶ In 61% of samples positive for *Cryptosporidium* no other pathogen was identified. *Cryptosporidium* positive, mix-infected samples were mostly also positive for Rotavirus (n=35, 23%). *Cryptosporidium* prevalence was highest in the Aegean region (84%), followed by Mediterranean (71,8%) and Southeast Anatolia (70%) (Fig.2).

FIGURE 1. Percentage of fecal samples from diarrheic calves showing presence of the key enteric pathogens.

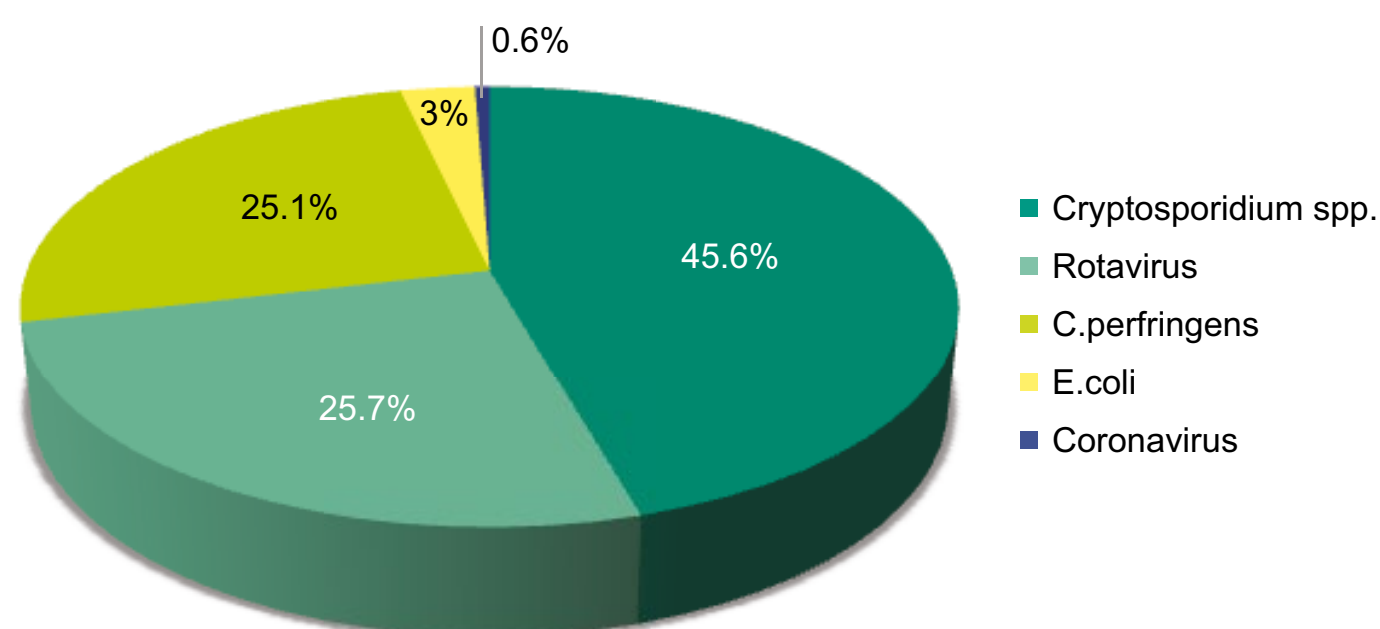
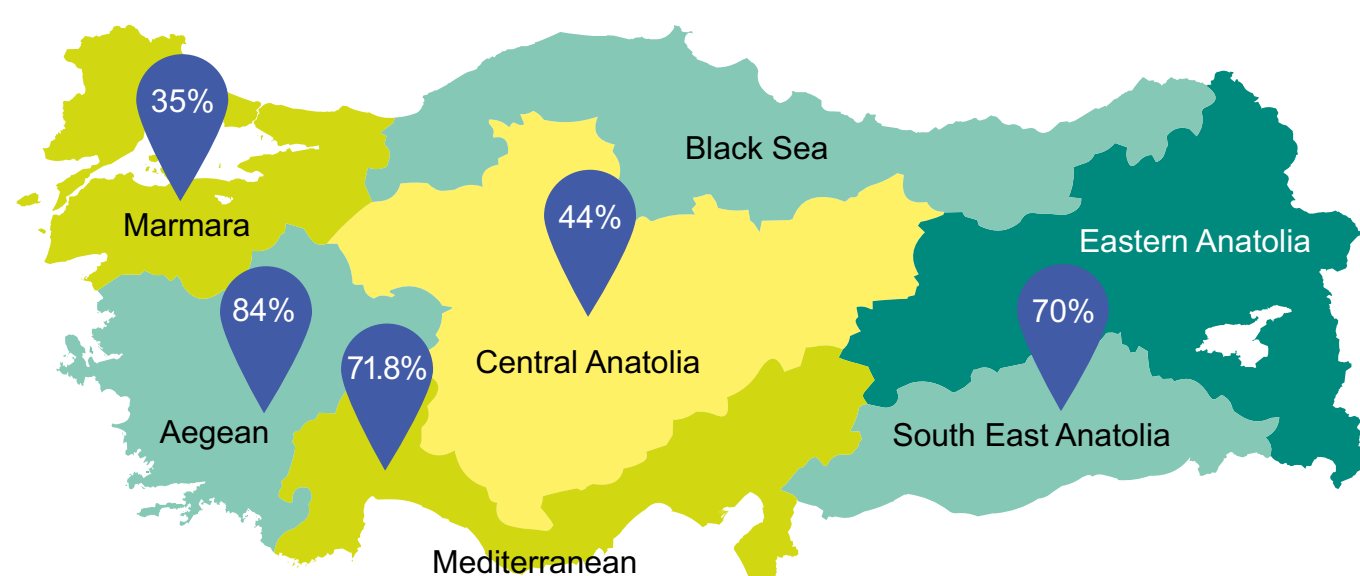


FIGURE 2. Prevalence of *Cryptosporidium* in fecal samples from diarrheic calves on farms in 5 geographical regions of Turkey.



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