Enteropathy due to *Clostridium difficile* (CD) has been sporadically documented in rabbits (1, 2, 3) and limited data are available on the role of rabbits as carrier of pathogenic strains.

**OBJECTIVES.** This study aimed to investigate the presence and diversity of CD in farmed rabbits in Italy

**METHODS**  

Samples. 1179 rabbit’s caecal contents were collected in 301 different farms in Italy between 2008-2011  

Microbiological analysis. Each sample was pre-enriched on Taurocholate Cefoxitin Cycloserine Fructose (TCCF) Broth (4) and performed both in Columbia Agar Base added with aesculin and horse blood red cells (5) and TCCF Agar (6). Identification was based on morphological criteria and confirmed by MALDI-TOF mass spectrometry (Bruker Daltonics).  

Biomolecular characterization. Strains were characterized by tcdA, tcdB (7) and binary toxin genes detection (8). PCR-ribotyping (RT) was performed as described by Bidet et al. (9) and resulting patterns of field strains have been compared with those obtained for 21 epidemic European strains (RT-001, RT-002, RT-005, RT-010, RT-012, RT-014, RT-016, RT-017, RT-018, RT-020, RT-027, RT-033, RT-045, RT-070, RT-078, RT-087, RT-081, RT-103, RT-126, RT-127, RT-150). Toxinotyping (10) and TcdC gene variations were also investigated (11).

**RESULTS**  

- CD was recovered from 39/1179 (3.3%) animals.  
- 13/39 (33.4%) were not toxigenic  
- 22/39 (56.4%) strains were positive only for *tcdA* and *tcdB* genes  
- 4/39 (10.2%) were positive also for binary toxin coding genes

- 14 different RTs were identified with RT-014 TT 0, RT-002 TT 0, RT-078 TT V, RT-012 TT O and RT-126 TT V being the most frequently isolated toxigenic strains (fig 1, tab 1).

**CONCLUSIONS**  

This study represents the first report on *Clostridium difficile* ribotypes in rabbits.  

Our results show that:  

- *Clostridium difficile* is isolated in a small percentage of rabbits  
- All toxigenic strains isolated in rabbits belong to ribotypes that are frequently detected also in human both in Europe and in Italy.  

To date, direct transmission from animal to human has not been proved, however, the presence in rabbits of ribotypes of human interest (eg RT-014/012) suggests that rabbits could serve as potential carrier of pathogenic strains.

**ACKNOWLEDGEMENTS.** The authors would like to thank Dr Mark Wilcox, Dr Peter Parnell and Dr Maja Rupnik for their support on typing of CD strains.

**REFERENCES**  