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ENTE SANITARIO DI DIRITTO PUBBLICO

Ministero della Salute

ANTIMICROBIALS USE IN ITALIAN FATTENING UNITS DURING A FOUR-YEAR PERIOD

Preliminary Results

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Italy is a both a large **producer** of **pigs** and a huge **consumer** of **antimicrobials**. Still, **data** on antimicrobial use (**AMU**) in Italian **pig** farms are **limited**. During the last few years, **education campaigns**, regarding rational AMU, became more common but **nationwide stewardship** has <u>not</u> been **implemented** yet.

AIM investigate any **variations** on **AMU** patterns in Italian **fattening units** during a **four years** period (2014 to 2017).

METHODS

Fattening units of **259 farms** (Tab. 1) with, at least, one year of AMU available within the **ClassyFarm** system (www.classyfarm.it) were involved in the study, data was collected from paper sources.

→ **AMU** expressed as treatment incidence 100 (**TI_{100}**)[1,2] using **DDDAit** (*Defined Daily Dose Animal for Italy*) as metric, **100 kg** as standard weight, and **180 days** at risk

→ **Spearman**'s rank for correlations between reared **pigs** and **AMU** (**overall** and WHO's **HPCIAs**)

→ **Friedman test** in **52** out of 259 **farms** (20.1%) in which **AMU** were available from **2015** to **2017**

RESULTS

Tab. 1 –- Number of sampled farms and pigs (finishers only) by year

YEAR	2014	2015	2016	2017
Reared Pigs (No)	302,299	1,400,539	1,200,334	368,743
Farms (No)	54	208	135	70

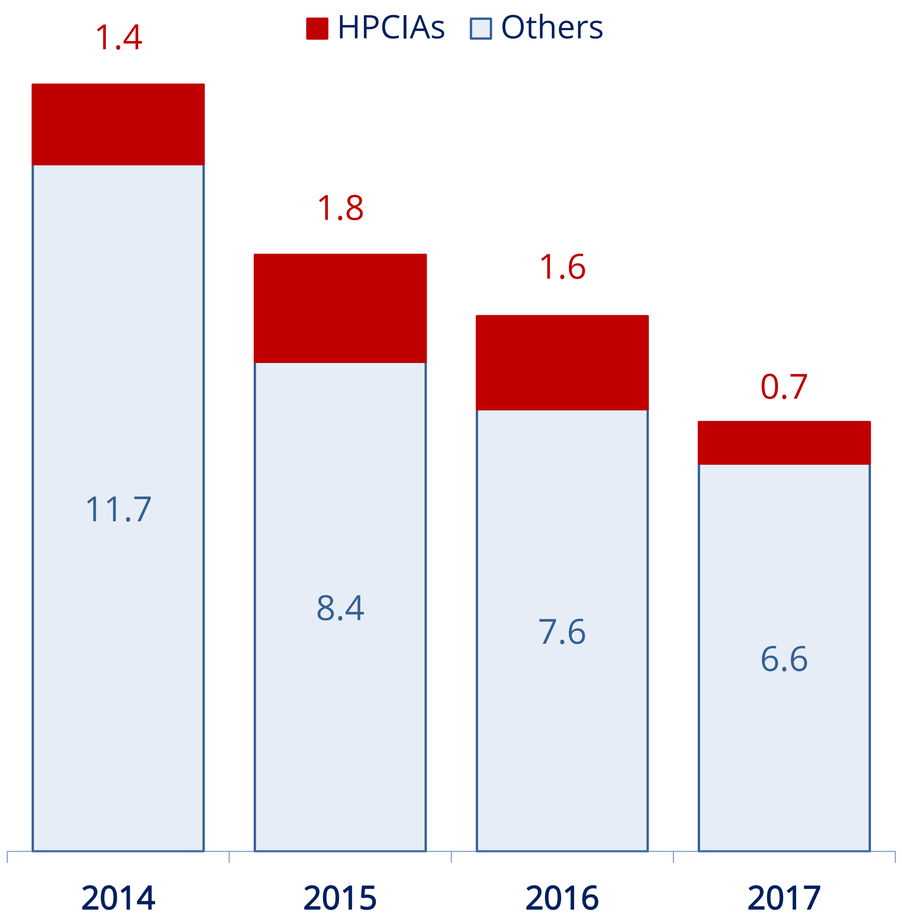

Fig. 1 –- AMU of HPCIAs and other antimicrobials (TI_{100}) by year

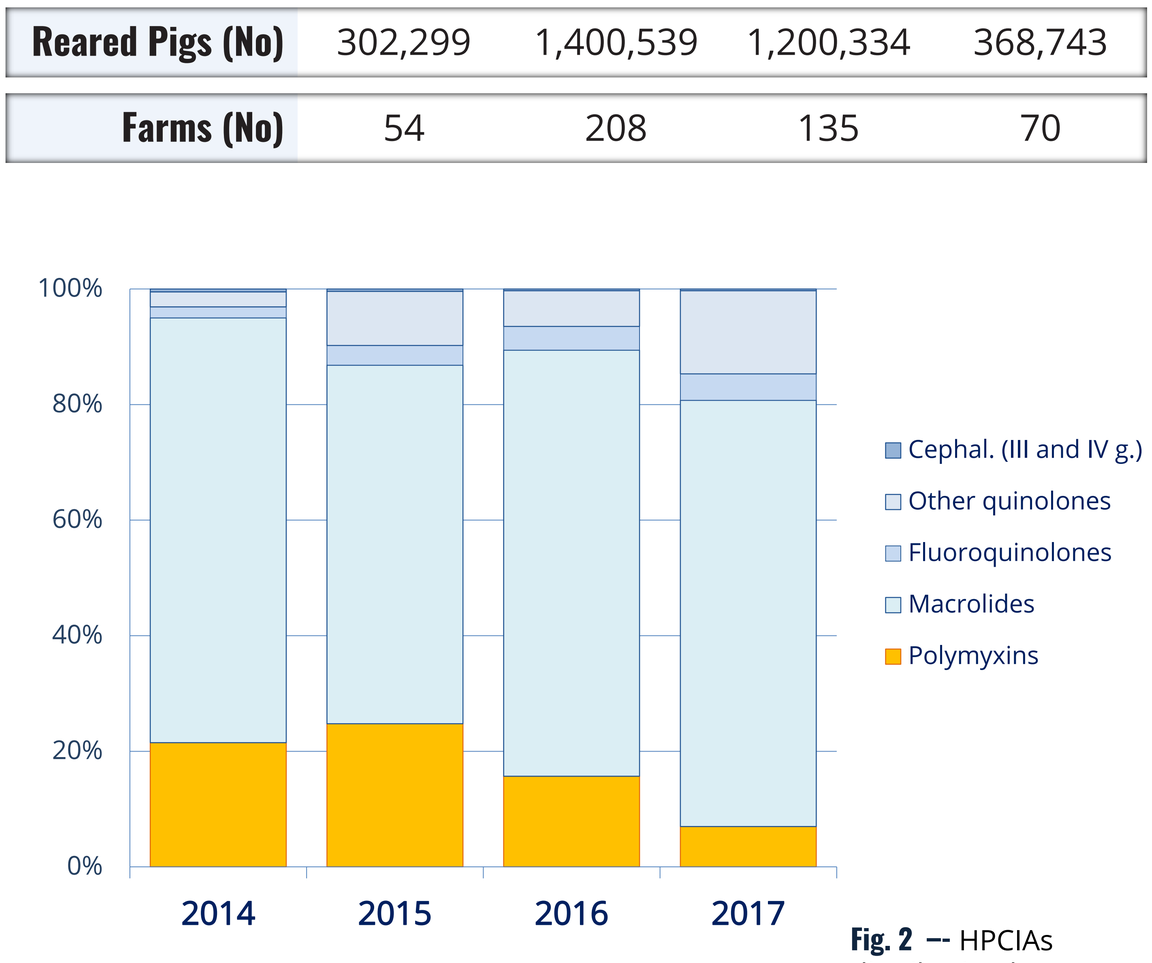

Fig. 2 –- HPCIAs distribution by year

→ **Negative** correlation between reared **pigs** and **AMU** in **2015** (ρ = -0.27, P<0.001)

→ **Positive** correlation between **AMU** and **frequency** of **HPCIAs** use in **2016** (ρ = 0.22, P = 0.007)

→ In the **52 farms**, significant **differences** among years (2015 to 2017) only for **HPCIAs** (P = 0.002)

CONCLUSIONS

- <u>**Preliminary results**</u>**:** limited sample size and data quality (paper sources), usually different farms among the years, overall AMU stable in the 52 farms where data was fully available from 2015 to 2017
- **AMU** and **HPCIAs** use were almost **halved** which may be **partially** due to **education** campaigns
- **Restrictions** on **colistin** use may have considerably influenced its reduction
- **AMU trends** in **Italians** pig farms should be further **investigated** considering a **larger sample** with **all age groups**

1. Timmerman T, Dewulf J, Catry B, Feyen B, Opsomer G, de Kruif A & Maes D. (2006). Quantification and evaluation of antimicrobial drug use in group treatments for fattening pigs in Belgium. Prev. Vet. Med.,74: 251–263.
2. AACTING consortium (2018). Guidelines for collection, analysis and reporting of farm-level antimicrobial use, in the scope of antimicrobial stewardship (version 1.1). Available at http://www.aacting.org/guidelines

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