EUCAST European Committee on Antimicrobial Susceptibility Testing

Pasteurella spp.

Calibration of zone diameter breakpoints to MIC values

Version 3.3
January 2026

Pasteurella spp.
MIC and zone diameter correlates

- The following histograms present inhibition zone diameter distributions from EUCAST antimicrobial susceptibility testing. In most, the different colours of the bars indicate different MIC values. In some, the colours of the bars indicate a resistance gene or a resistance mechanism.

- The distributions include data for wild-type isolates and for isolates with acquired resistance mechanisms. A large number of isolates with MIC values close to the edge of the wild-type distribution and/or close to EUCAST clinical breakpoints were intentionally included. These distributions can not be used to infer resistance rates or the performance of the tests with routine isolates.

- For some agents, isolates were tested on more than one occasion, including parallel tests with disks and media from several manufacturers. When this is the case, data are presented as both the “number of isolates tested” and the “total number of MIC-zone diameter correlates”, including replicate tests and parallel tests with disks and media from different sources.

Pasteurella spp. Materials and methods

- Antimicrobial susceptibility testing was performed on an internationally diverse collection of *Pasteurella* spp., mostly human clinical isolates, but resistant isolates from pig and cattle were also included. The collection included *P. multocida* (n=131), *P. canis* (n=31), *P. dagmatis* (n=8) and *P. aerogenes* (n=2).

- Disk diffusion was performed on MH-F media according to EUCAST methodology and MICs were determined with broth microdilution and gradient tests.

- The distributions of MIC vs. zone diameter in this presentation are the result of a collaboration between EUCAST, Central Veterinary Institute (CVI, the Netherlands) and JMI Laboratories (US).

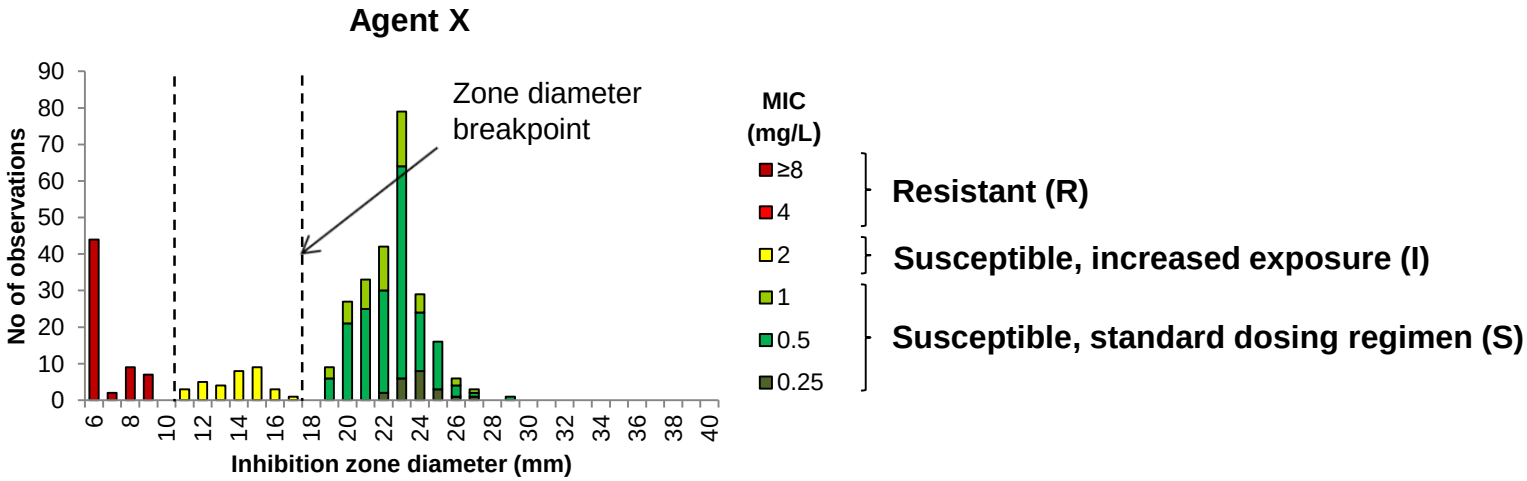
- This presentation is based on EUCAST Clinical Breakpoint Tables v. 16.0.

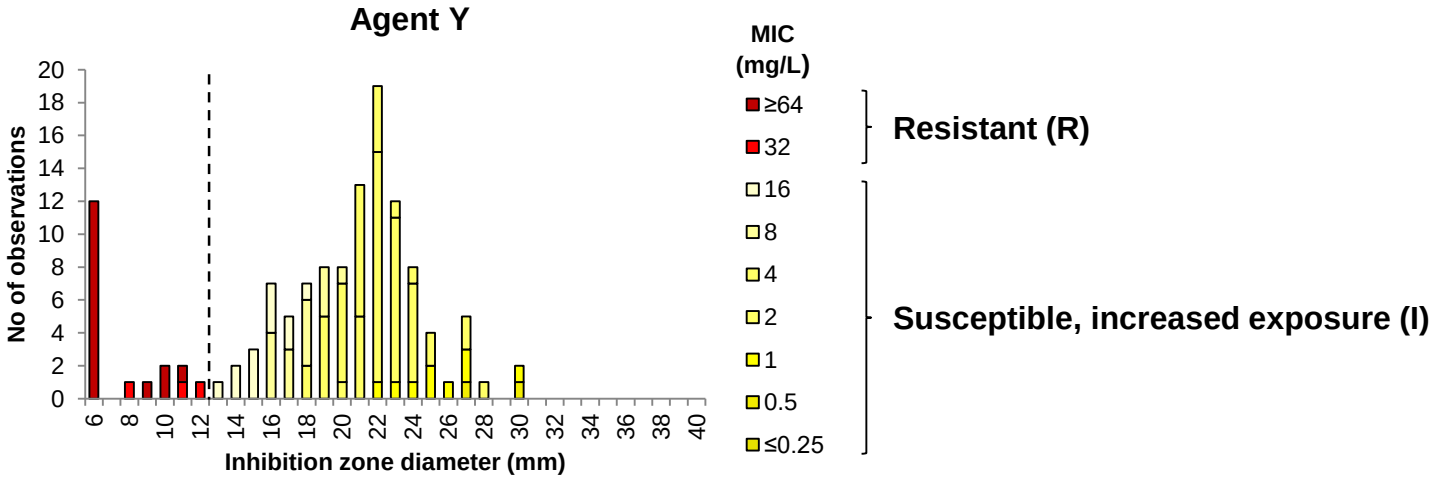
Changes from previous version (3.2)

Changes
• No changes. Breakpoints checked against latest version of EUCAST Clinical Breakpoint Tables.

Explanation of graphs:

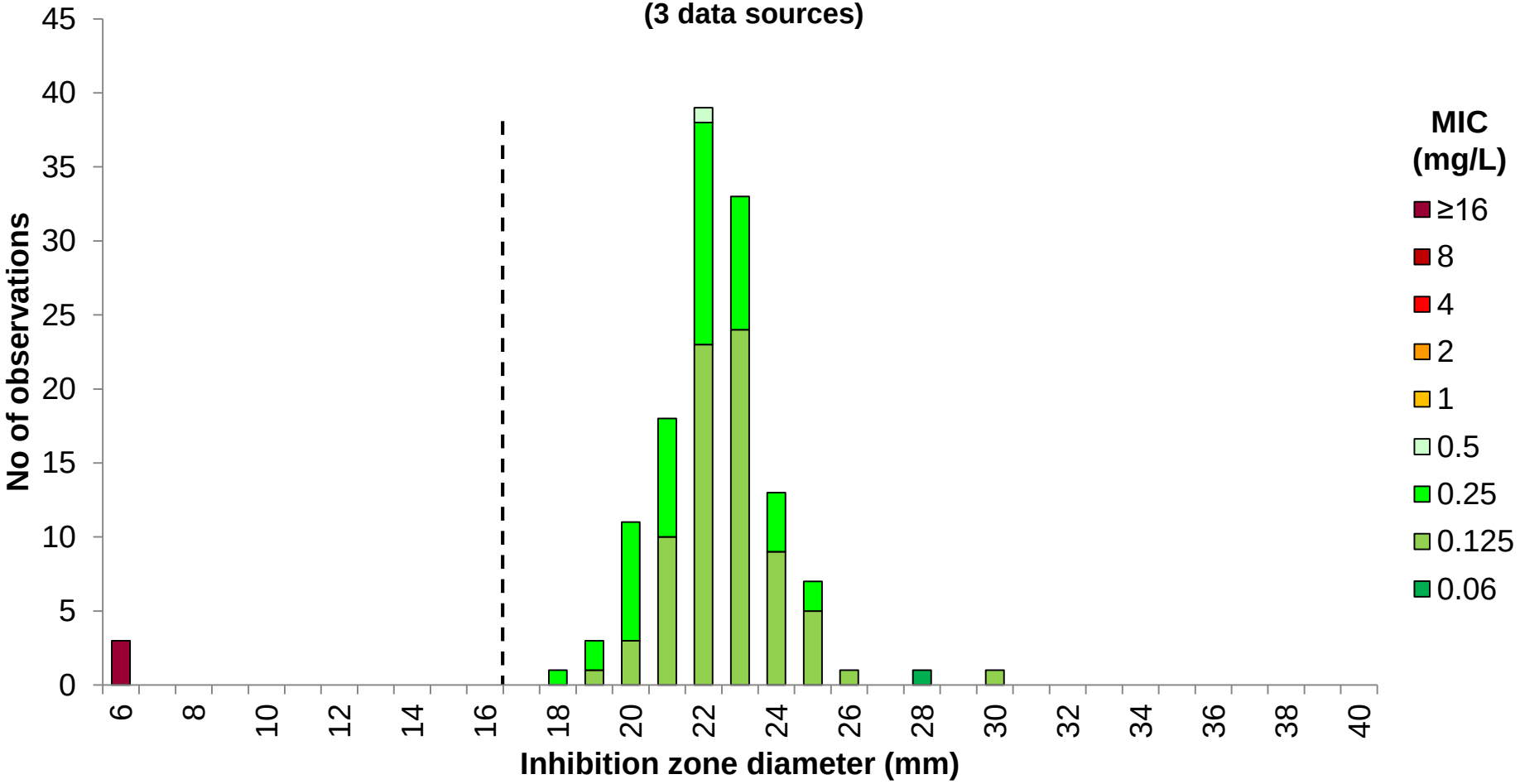
- These graphs show zone diameter distributions with MIC values or resistance mechanisms as coloured bars. Colours are related to current EUCAST MIC breakpoints.





Benzylpenicillin 1 unit vs. MIC
Pasteurella multocida, 131 isolates

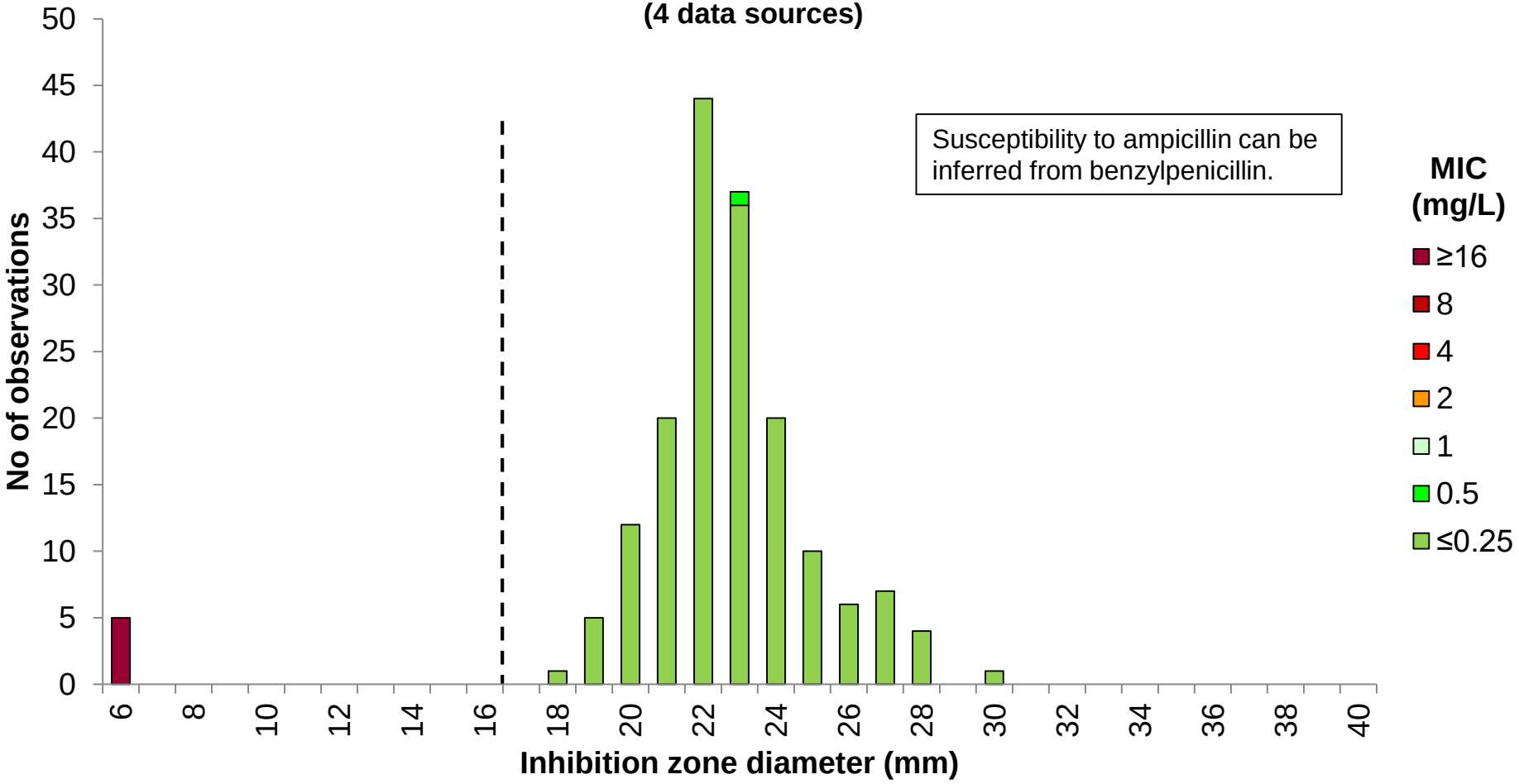
(3 data sources)



Breakpoints	
MIC	S≤0.5, R>0.5 mg/L
Zone diameter	S≥17, R<17 mm

Benzylpenicillin 1 unit vs. Ampicillin MIC
Pasteurella spp., 172 isolates

(4 data sources)

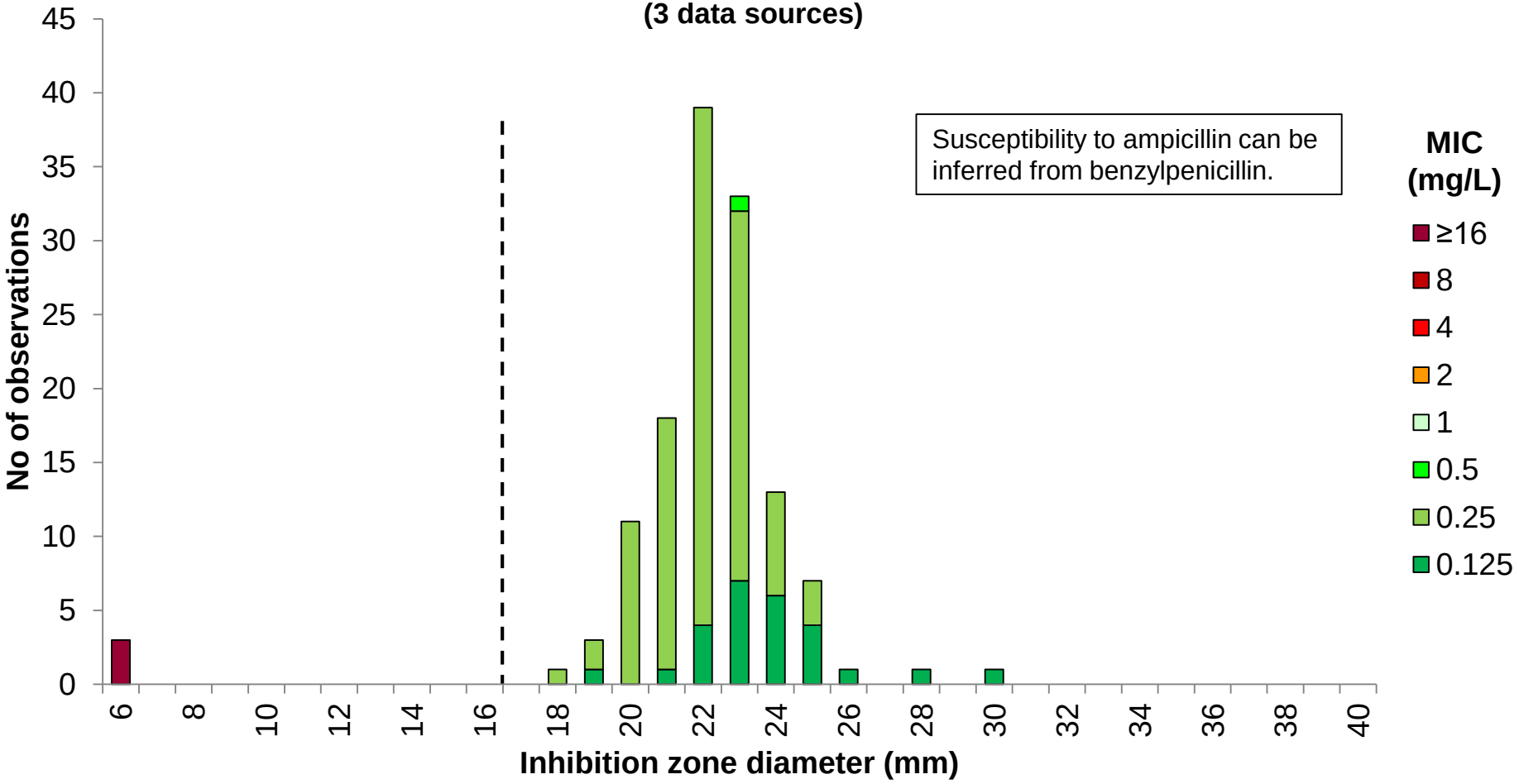


Breakpoints

Ampicillin MIC	S≤1, R>1 mg/L
Benzylpenicillin zone diameter	S≥17, R<17 mm

Benzylpenicillin 1 unit vs. Ampicillin MIC
Pasteurella multocida, 131 isolates

(3 data sources)

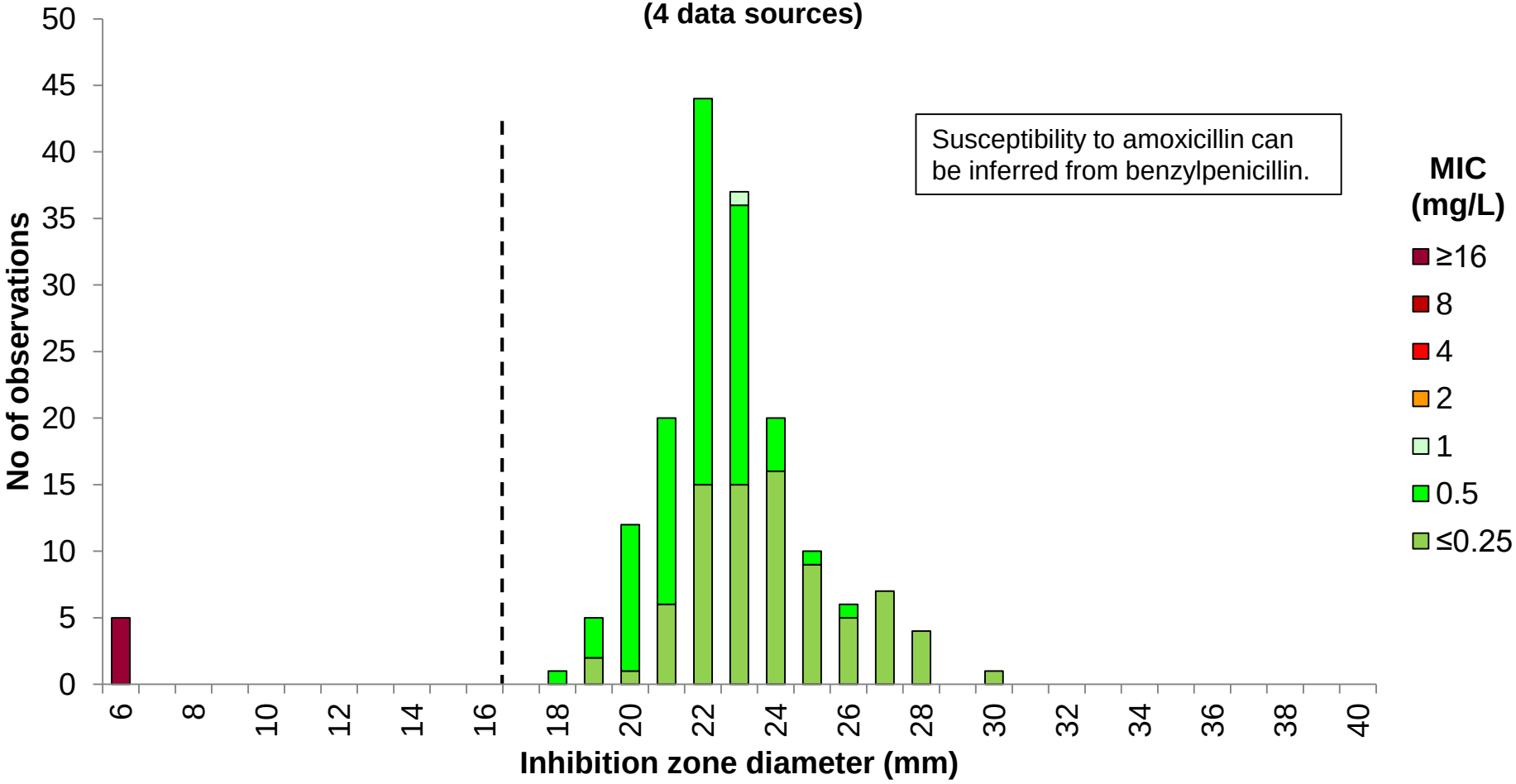


Breakpoints

Ampicillin MIC	S≤1, R>1 mg/L
Benzylpenicillin zone diameter	S≥17, R<17 mm

Benzylpenicillin 1 unit vs. Amoxicillin MIC
Pasteurella spp., 172 isolates

(4 data sources)

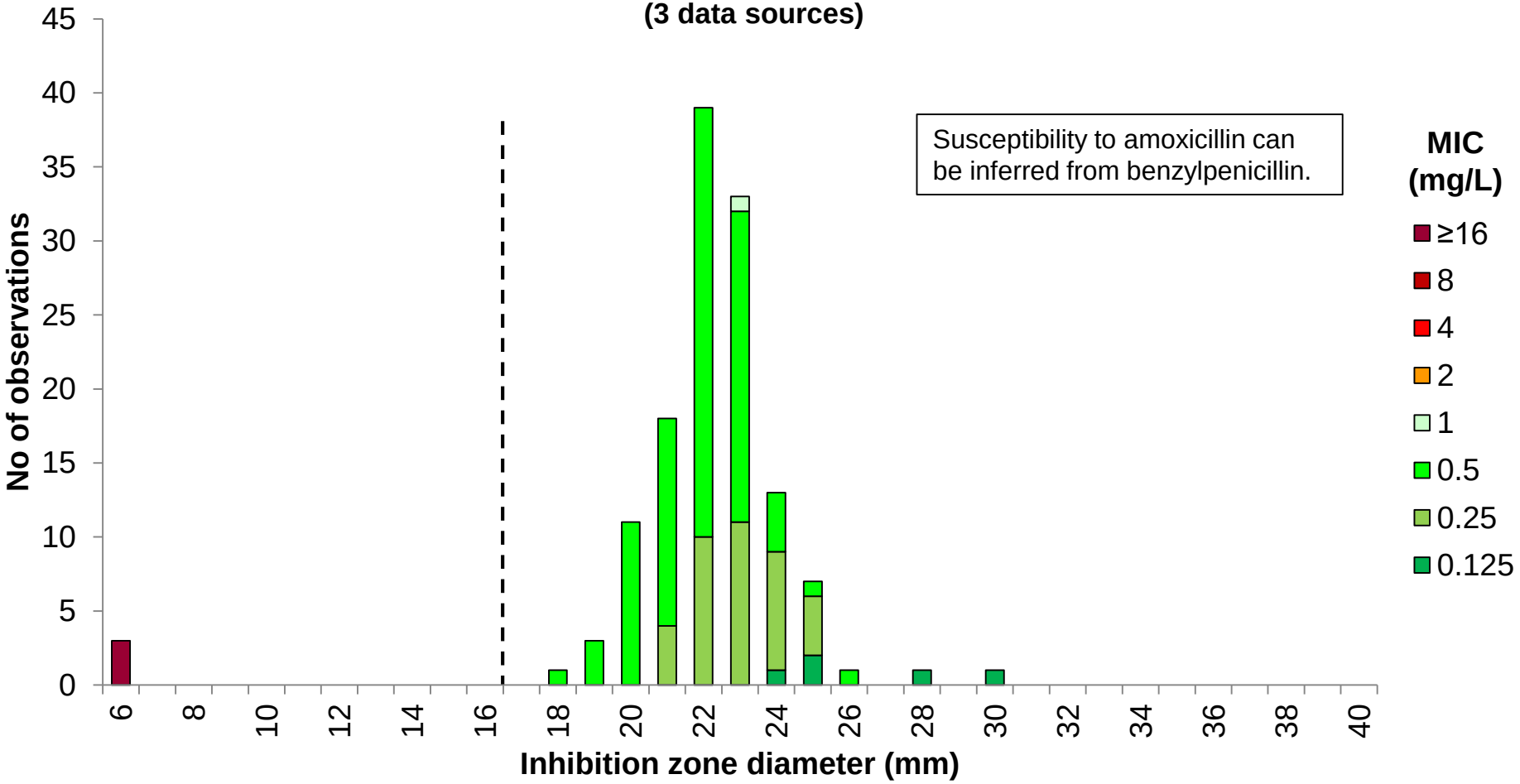


Breakpoints

Amoxicillin MIC	S≤1, R>1 mg/L
Benzylpenicillin zone diameter	S≥17, R<17 mm

Benzylpenicillin 1 unit vs. Amoxicillin MIC
Pasteurella multocida, 131 isolates

(3 data sources)

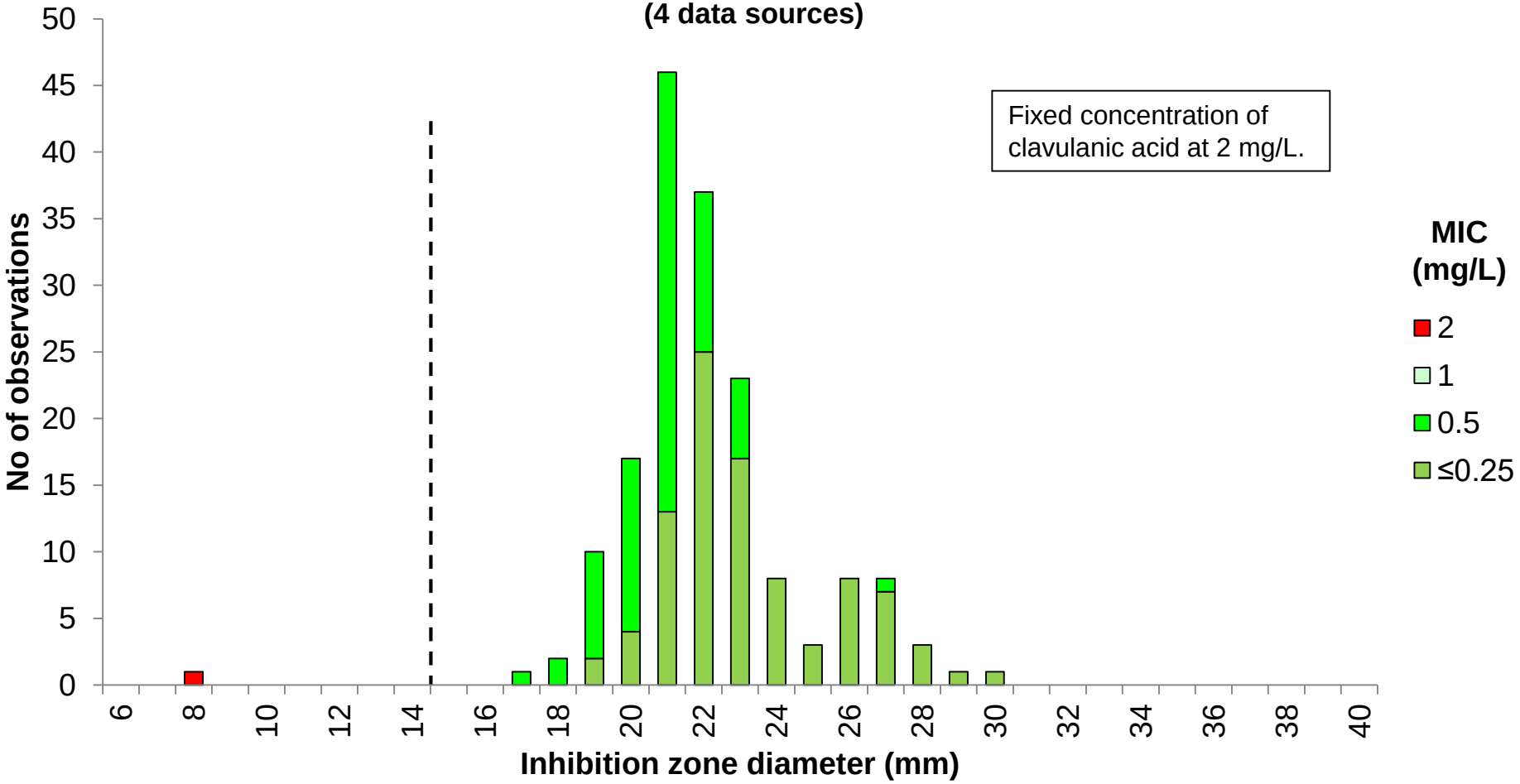


Breakpoints

Amoxicillin MIC	S≤1, R>1 mg/L
Benzylpenicillin zone diameter	S≥17, R<17 mm

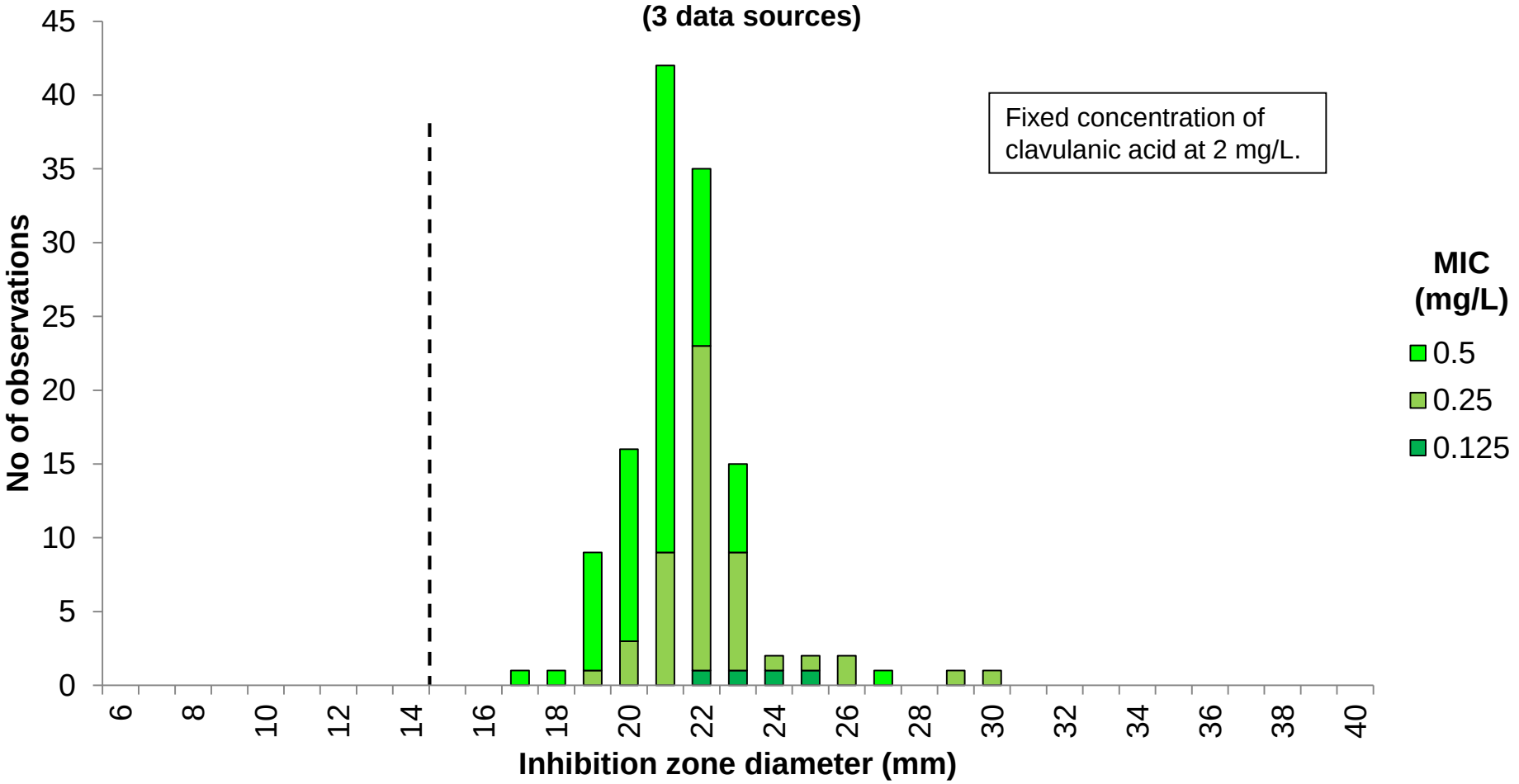
Amoxicillin-clavulanic acid 2-1 µg vs. MIC
Pasteurella spp., 169 isolates

(4 data sources)



Breakpoints	
MIC	S≤1, R>1 mg/L
Zone diameter	S≥15, R<15 mm

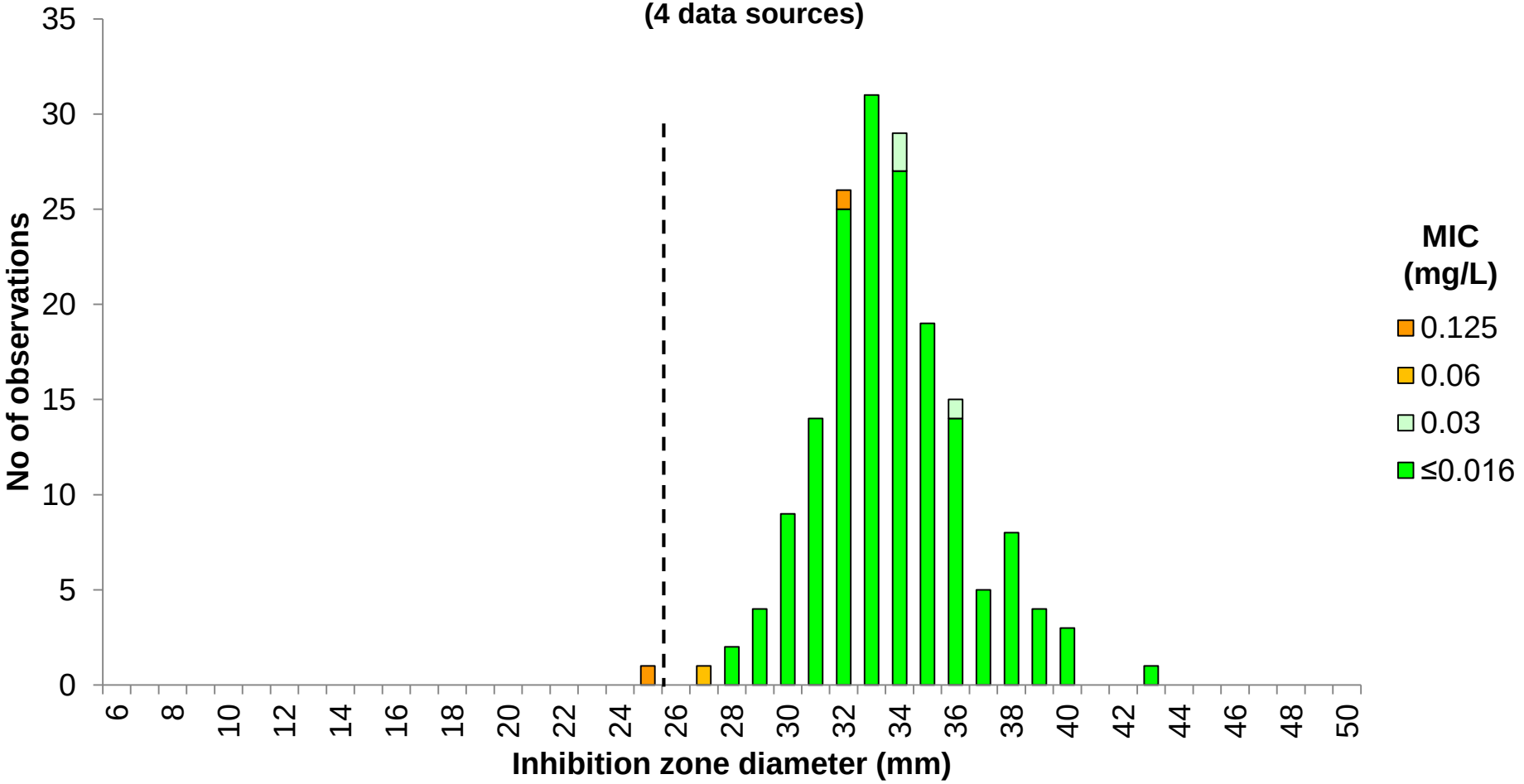
Amoxicillin-clavulanic acid 2-1 µg vs. MIC
Pasteurella multocida, 128 isolates



Breakpoints	
MIC	S≤1, R>1 mg/L
Zone diameter	S≥15, R<15 mm

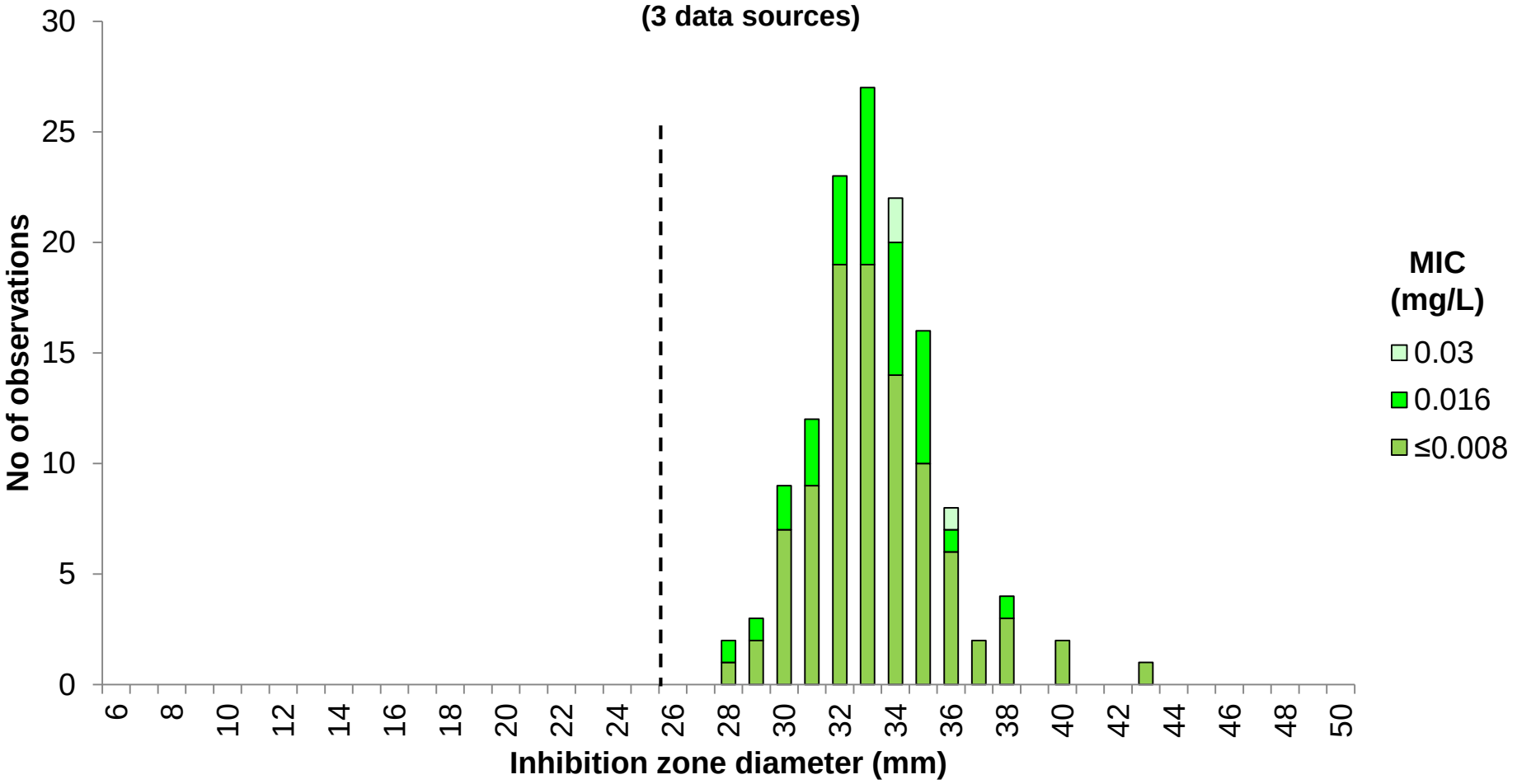
Cefotaxime 5 µg vs. MIC
Pasteurella spp., 172 isolates

(4 data sources)



Breakpoints	
MIC	S≤0.03, R>0.03 mg/L
Zone diameter	S≥26, R<26 mm

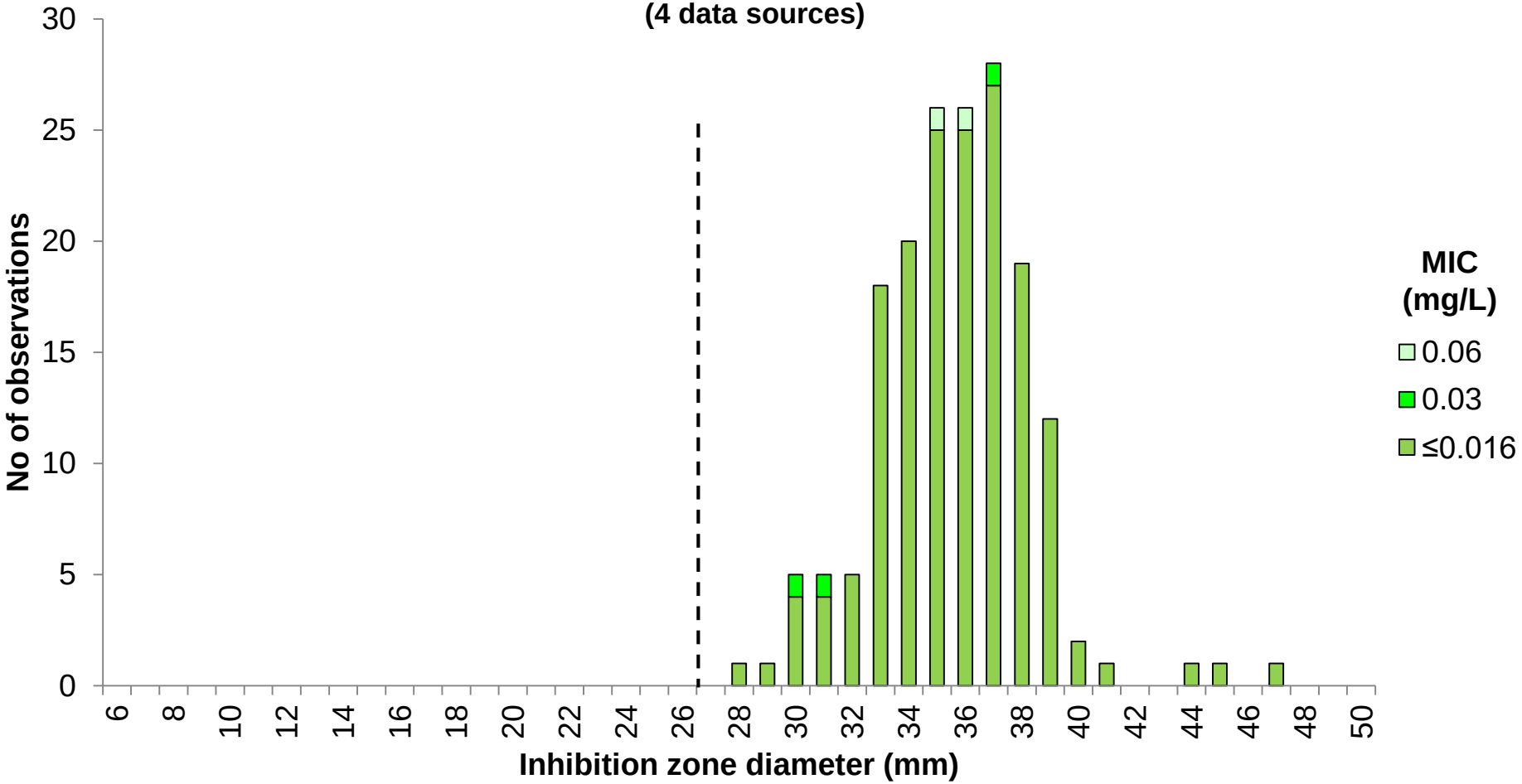
Cefotaxime 5 µg vs. MIC
Pasteurella multocida, 131 isolates



Breakpoints	
MIC	S≤0.03, R>0.03 mg/L
Zone diameter	S≥26, R<26 mm

Ciprofloxacin 5 µg vs. MIC
Pasteurella spp., 172 isolates

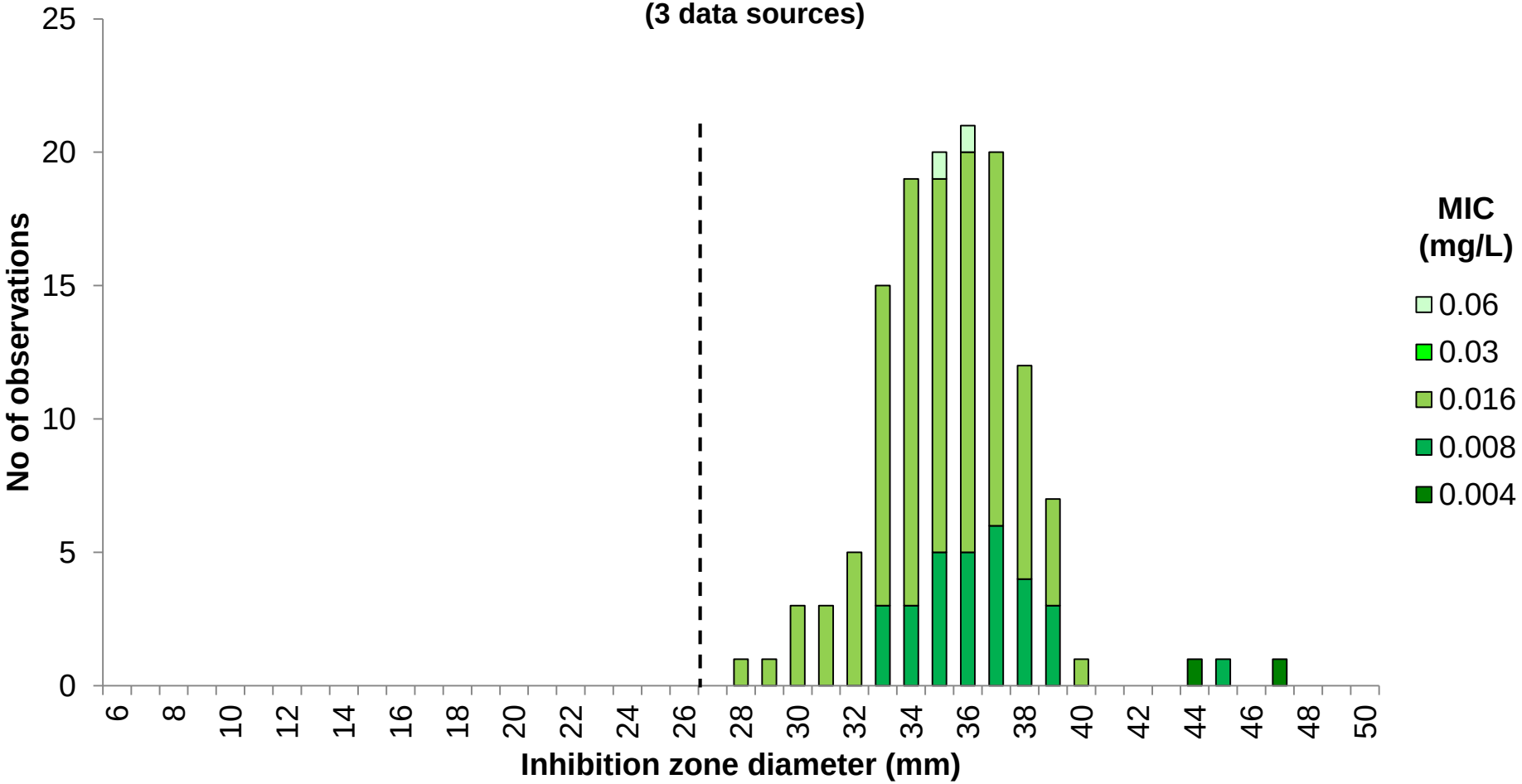
(4 data sources)



Breakpoints	
MIC	S≤0.06, R>0.06 mg/L
Zone diameter	S≥27, R<27 mm

Ciprofloxacin 5 µg vs. MIC
Pasteurella multocida, 131 isolates

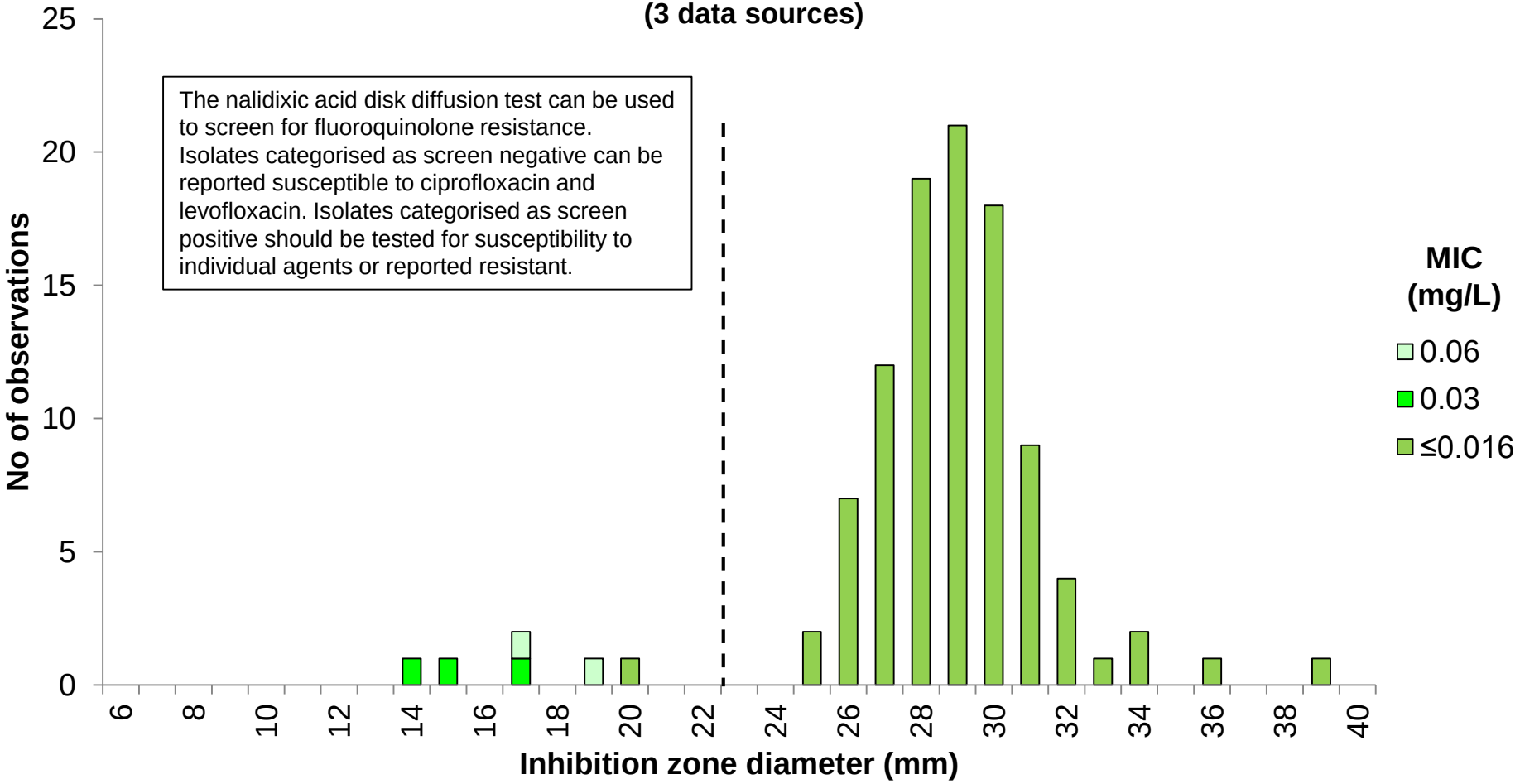
(3 data sources)



Breakpoints	
MIC	S≤0.06, R>0.06 mg/L
Zone diameter	S≥27, R<27 mm

Nalidixic acid 30 µg vs. Ciprofloxacin MIC
Pasteurella spp., 103 isolates

(3 data sources)

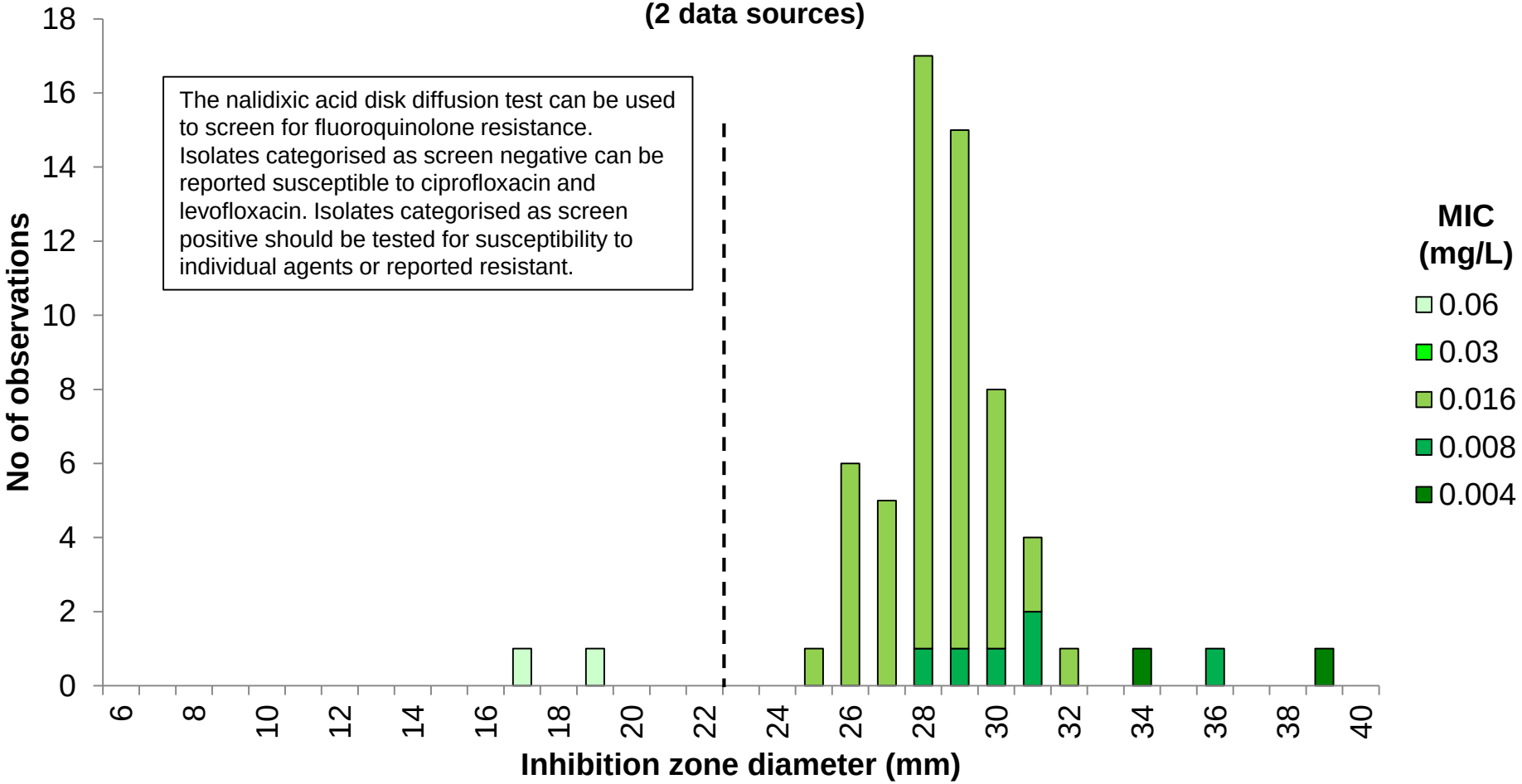


Breakpoints

Ciprofloxacin MIC	S≤0.06, R>0.06 mg/L
Nalidixic acid zone diameter (screen)	S≥23, R<23 mm

Nalidixic acid 30 µg vs. Ciprofloxacin MIC
Pasteurella multocida, 62 isolates

(2 data sources)

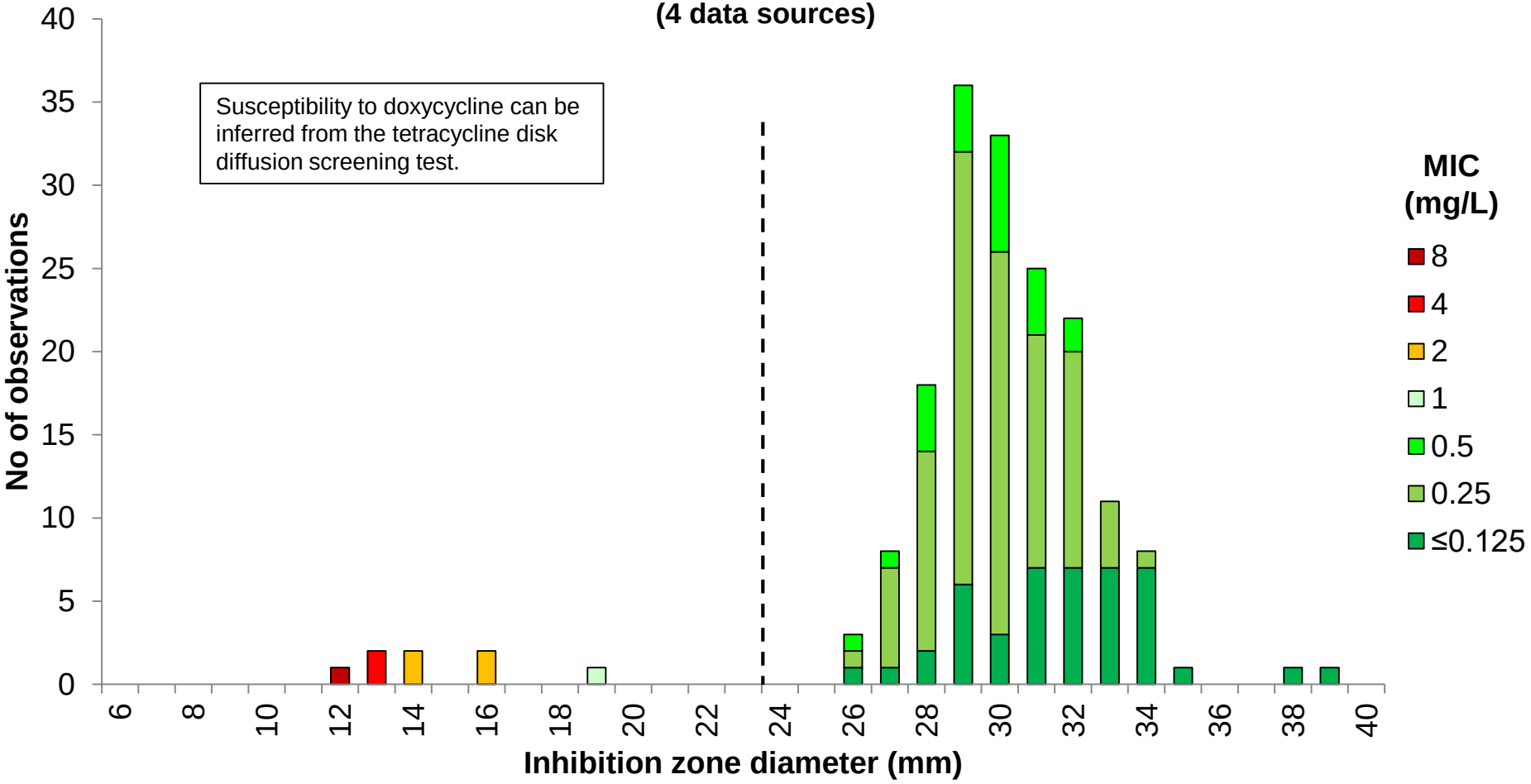


Breakpoints

Ciprofloxacin MIC	S≤0.06, R>0.06 mg/L
Nalidixic acid zone diameter (screen)	S≥23, R<23 mm

Tetracycline 30 µg vs. Doxycycline MIC
Pasteurella spp., 175 isolates

(4 data sources)

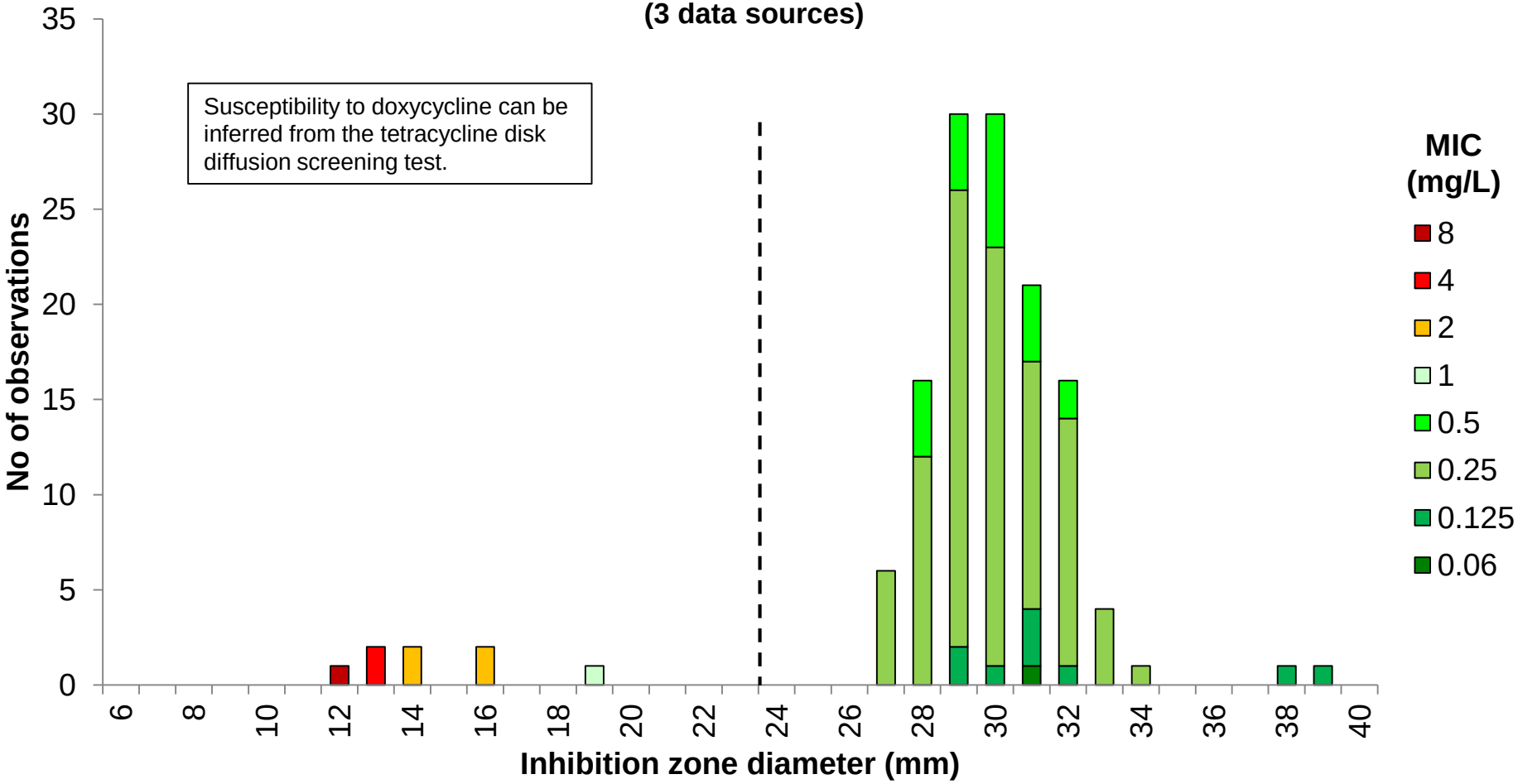


Breakpoints

Doxycycline MIC	S≤1, R>1 mg/L
Tetracycline zone diameter (screen)	S≥24, R<24 mm

Tetracycline 30 µg vs. Doxycycline MIC
Pasteurella multocida, 134 isolates

(3 data sources)

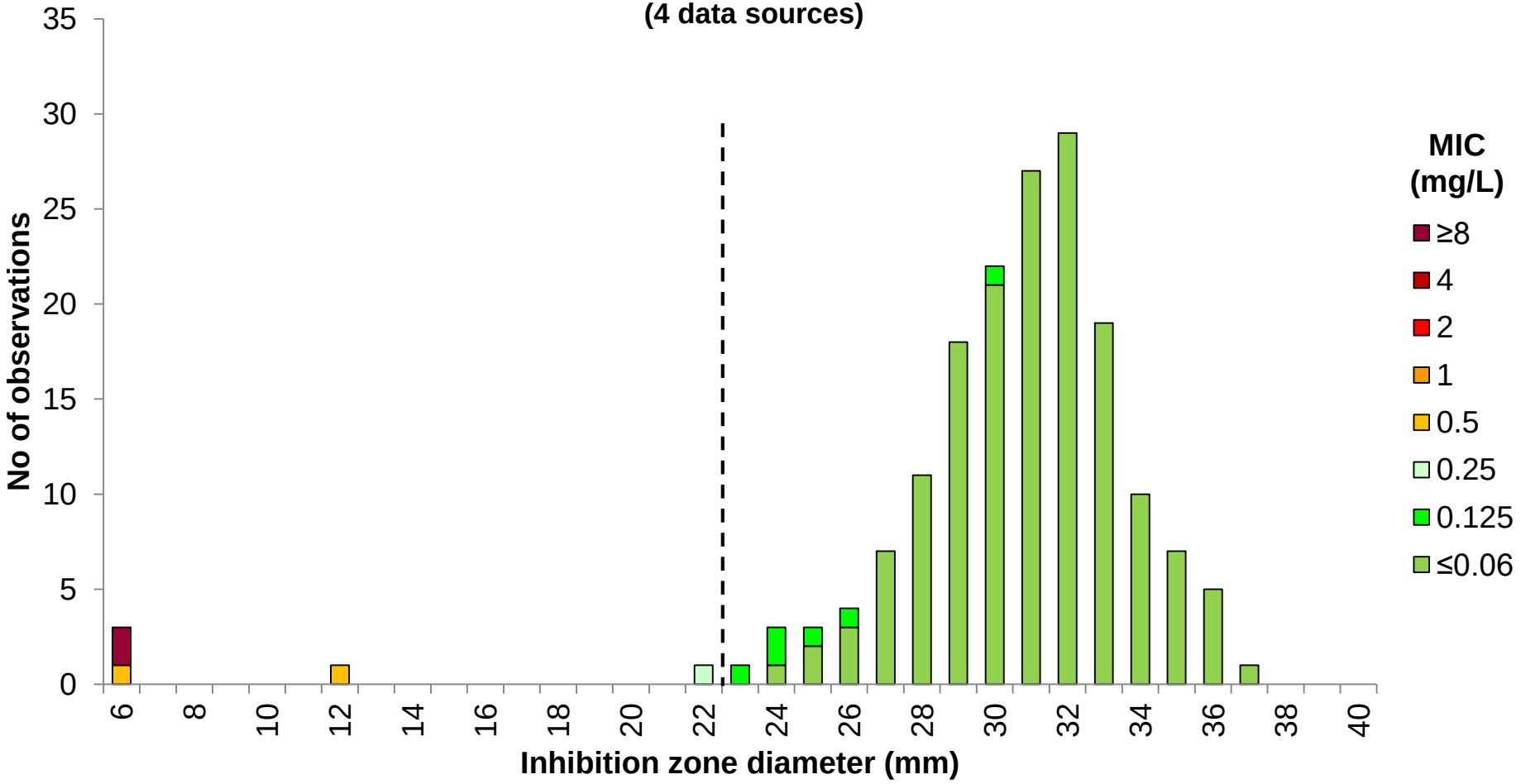


Breakpoints

Doxycycline MIC	S≤1, R>1 mg/L
Tetracycline zone diameter (screen)	S≥24, R<24 mm

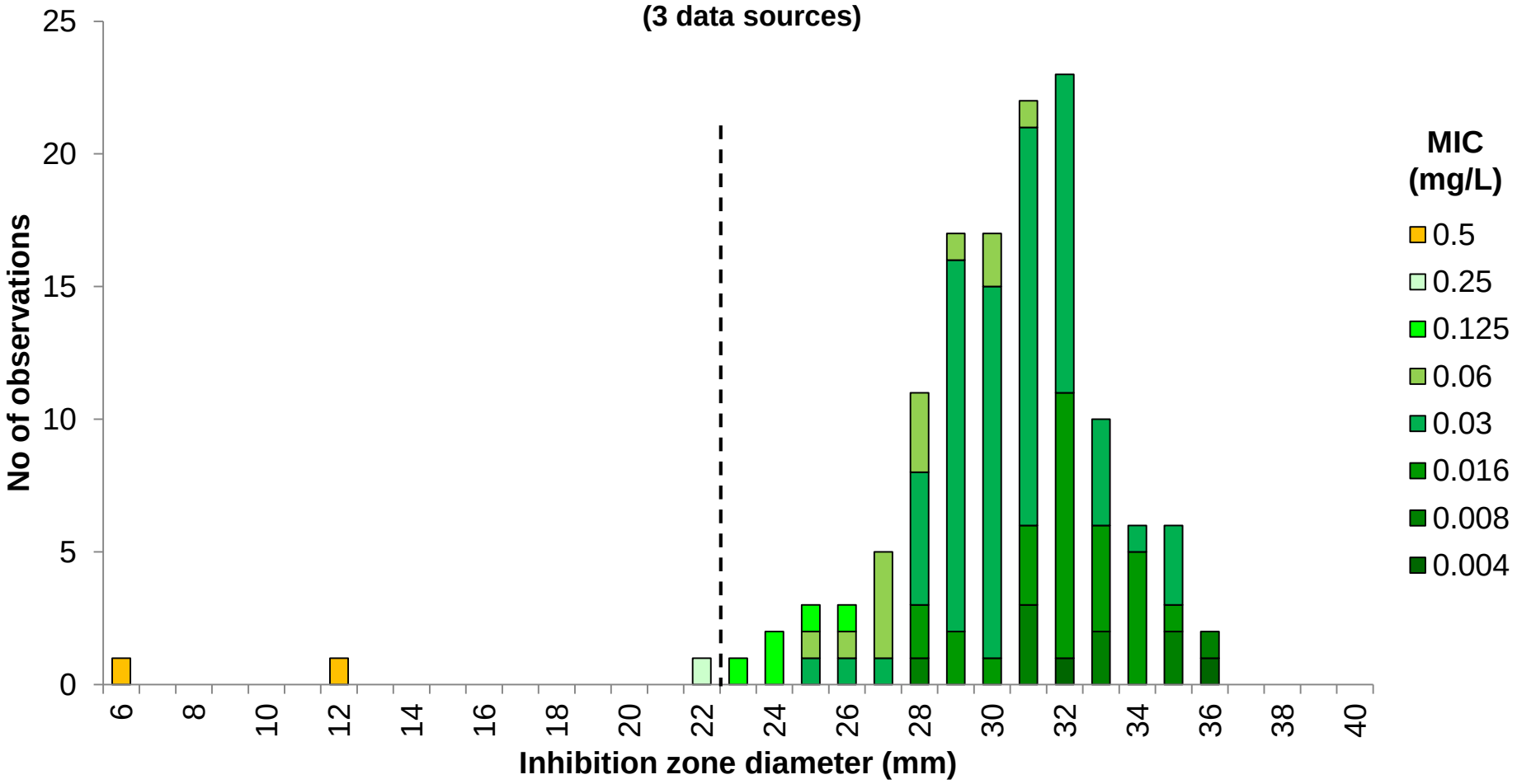
Trimethoprim-sulfamethoxazole 1.25-23.75 µg vs. MIC
Pasteurella spp., 172 isolates

(4 data sources)



Breakpoints	
MIC	S≤0.25, R>0.25 mg/L
Zone diameter	S≥23, R<23 mm

Trimethoprim-sulfamethoxazole 1.25-23.75 µg vs. MIC
Pasteurella multocida, 131 isolates



Breakpoints	
MIC	S≤0.25, R>0.25 mg/L
Zone diameter	S≥23, R<23 mm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