

Resistance gene profiles of multidrug-resistant *Klebsiella* spp. from poultry samples

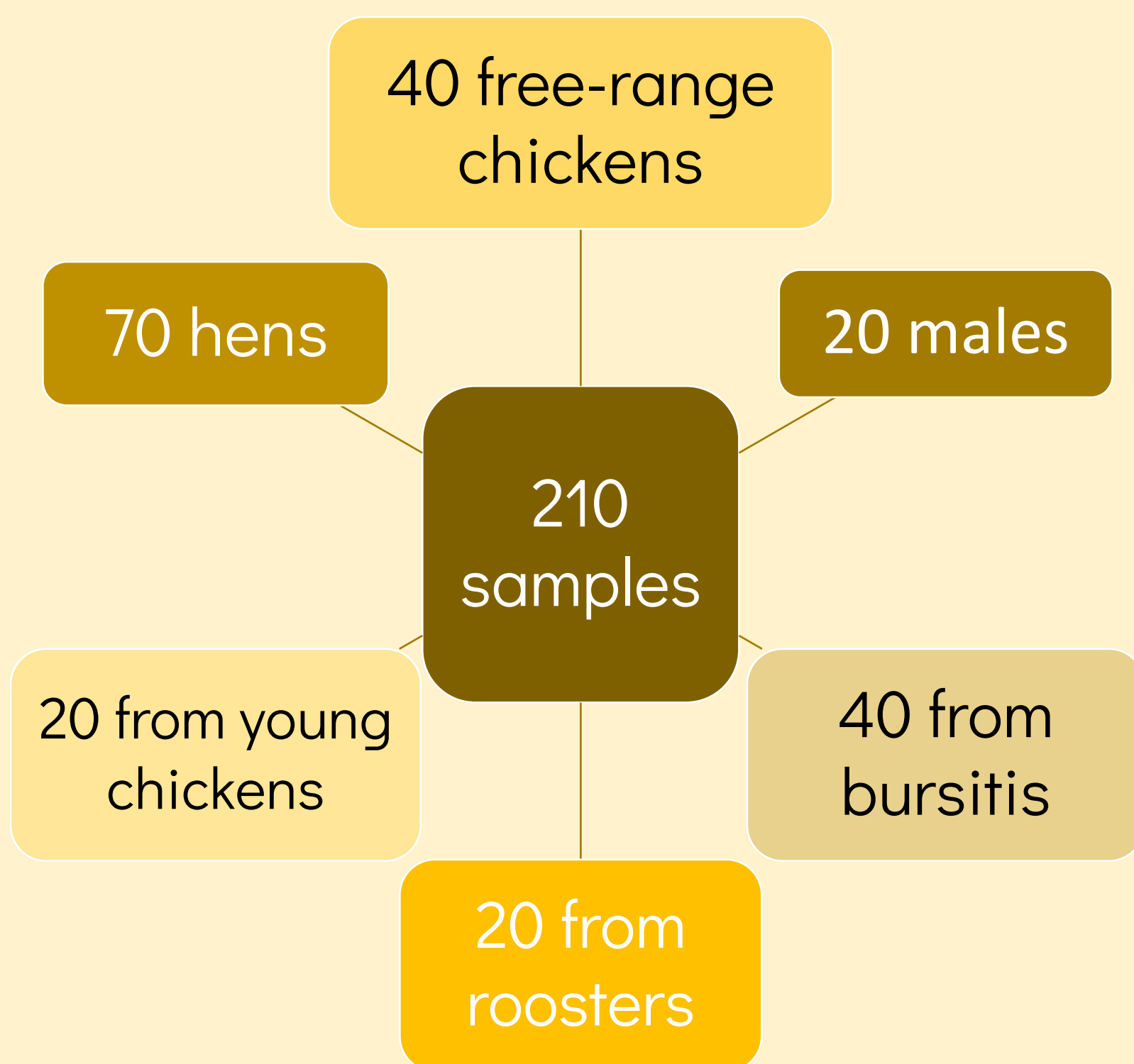
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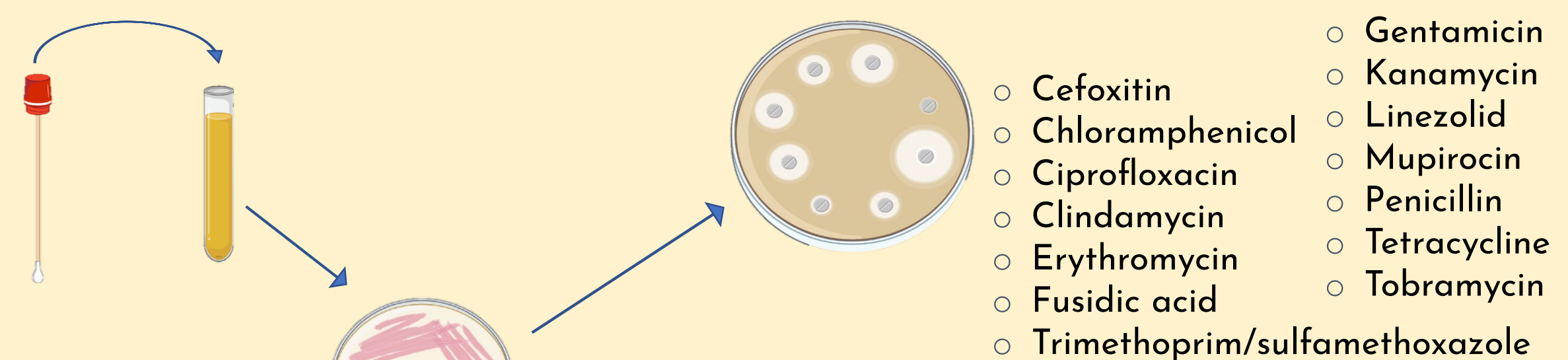
Introduction

Antimicrobial resistance (AMR) is a growing global concern, with *Klebsiella* species emerging as significant pathogens due to their capacity to acquire resistance genes rapidly. These bacteria, commonly associated with human infections, are increasingly found in animal reservoirs, including poultry, raising concerns about zoonotic transmission and public health risks. This study focuses on isolating and characterizing *Klebsiella* spp. from broilers and broiler bursitis, evaluating their antimicrobial resistance profiles and the prevalence of associated resistance genes to better understand the AMR burden in poultry.

Methods



Antimicrobial susceptibility testing



PCR and sequencing



Results

From the 210 samples, 51 isolates of *Klebsiella* spp. were obtained, including 20 from hens, 10 from young chickens, 8 from bursitis, 6 from free-range chickens, 4 from roosters, and 3 from males. Regarding the antimicrobial resistance, 57% of the isolates were classified as multidrug-resistant. (Figure 1) A few antimicrobial resistance genes were detected (Figure 2).

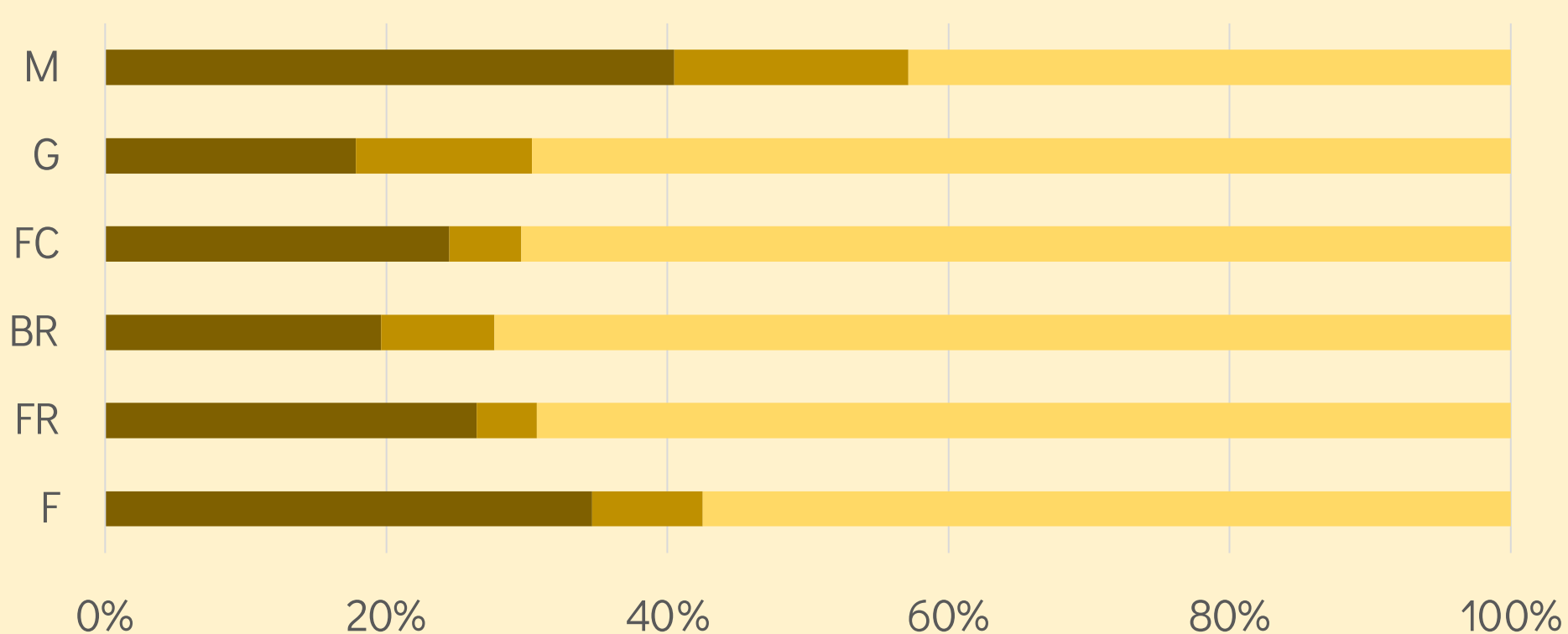


Figure 1. Antimicrobial resistance and susceptibility. M-males; G-roosters; FC-free-range chickens; BR- bursitis; FR- young chickens; F- hens (dark Brown: resistance; Brown: intermediate resistance; yellow: susceptibility)

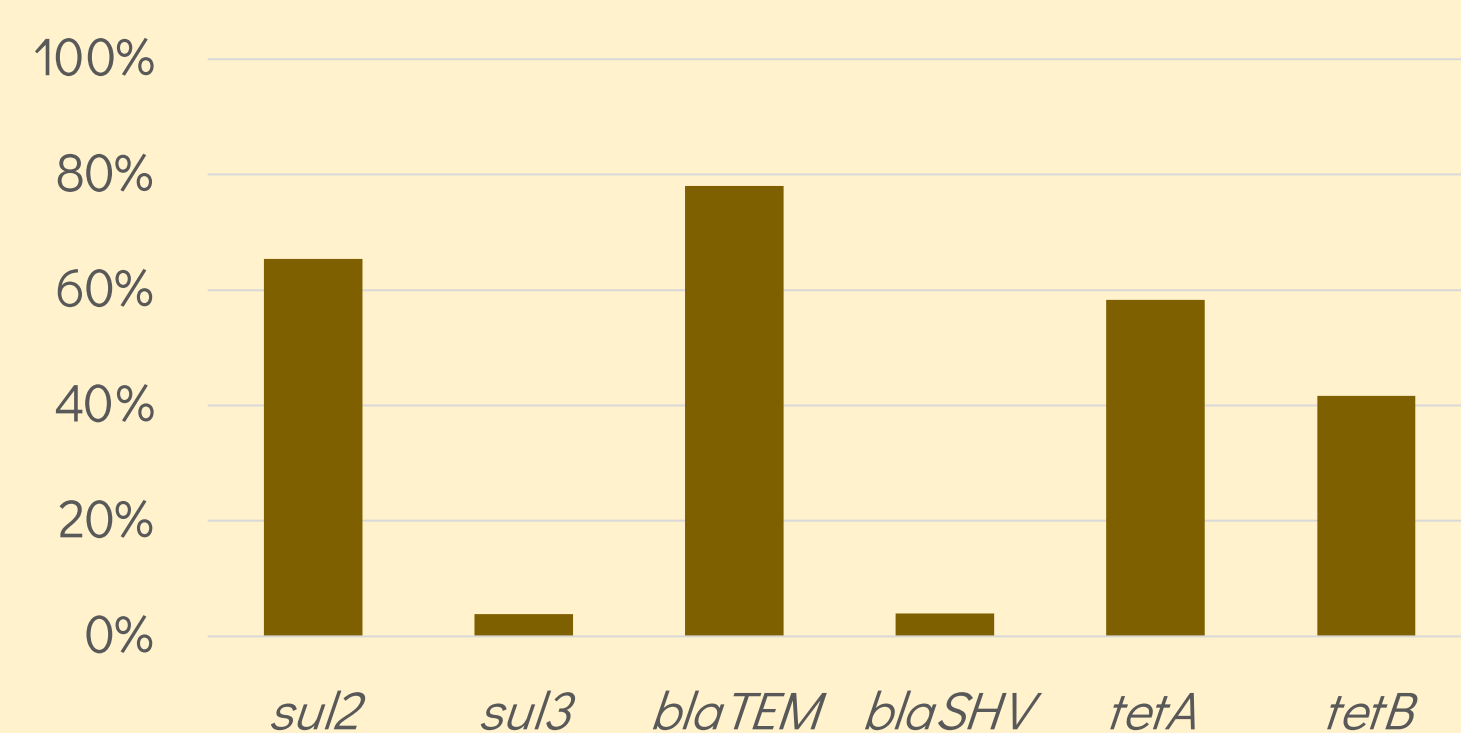


Figure 2. Percentage of antimicrobial resistance genes detected among the isolates.

Conclusions

This study highlights the significant antimicrobial resistance found in *Klebsiella* spp. isolated from poultry, underscoring the public health risks associated with the consumption of poultry products. More than half of the isolates were multidrug-resistant, which calls for ongoing surveillance and responsible antibiotic use in animal production to mitigate the spread of resistant strains.

