

# Antimicrobial residues and resistant bacteria in the Indian dairy value chain

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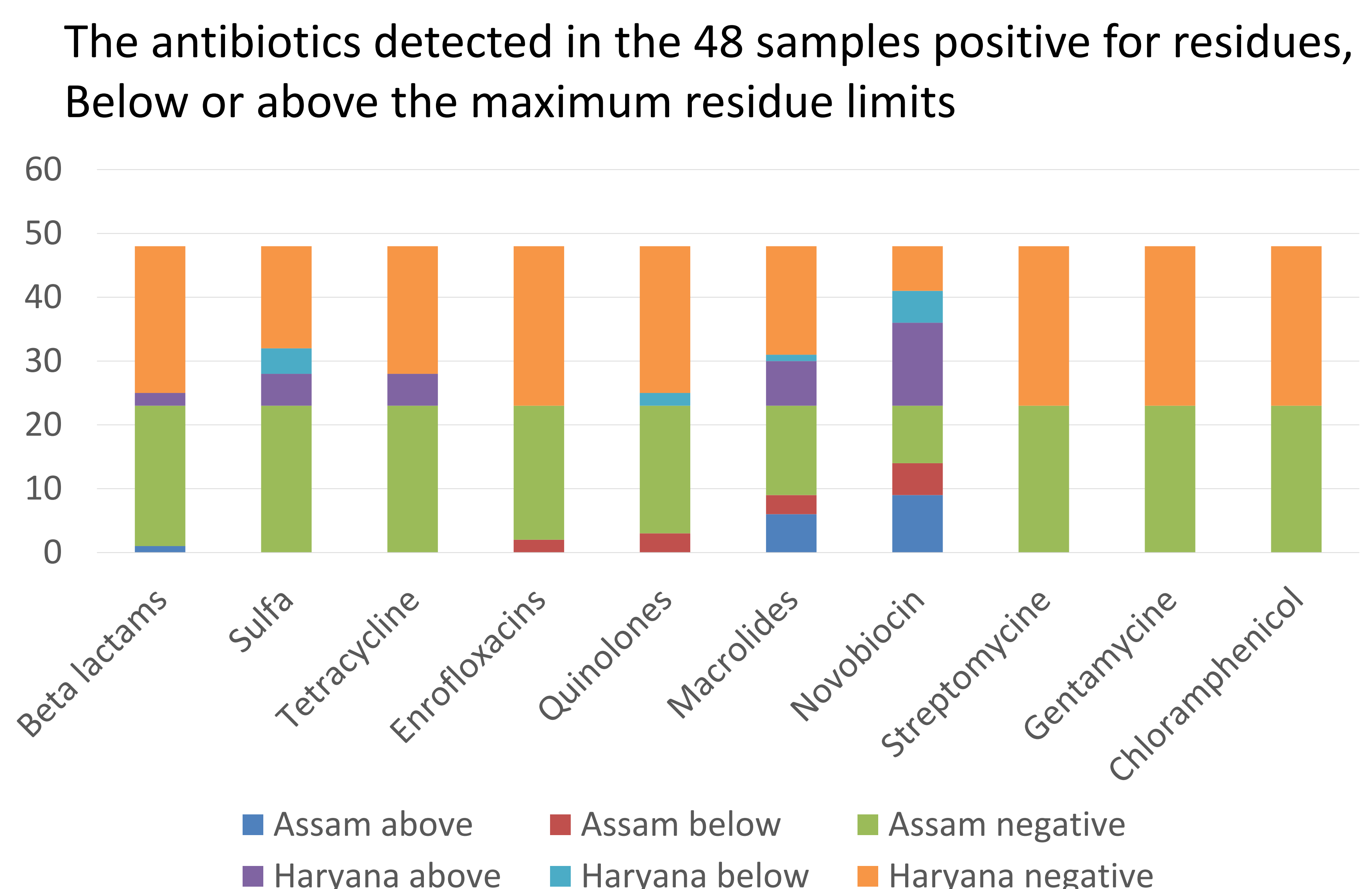
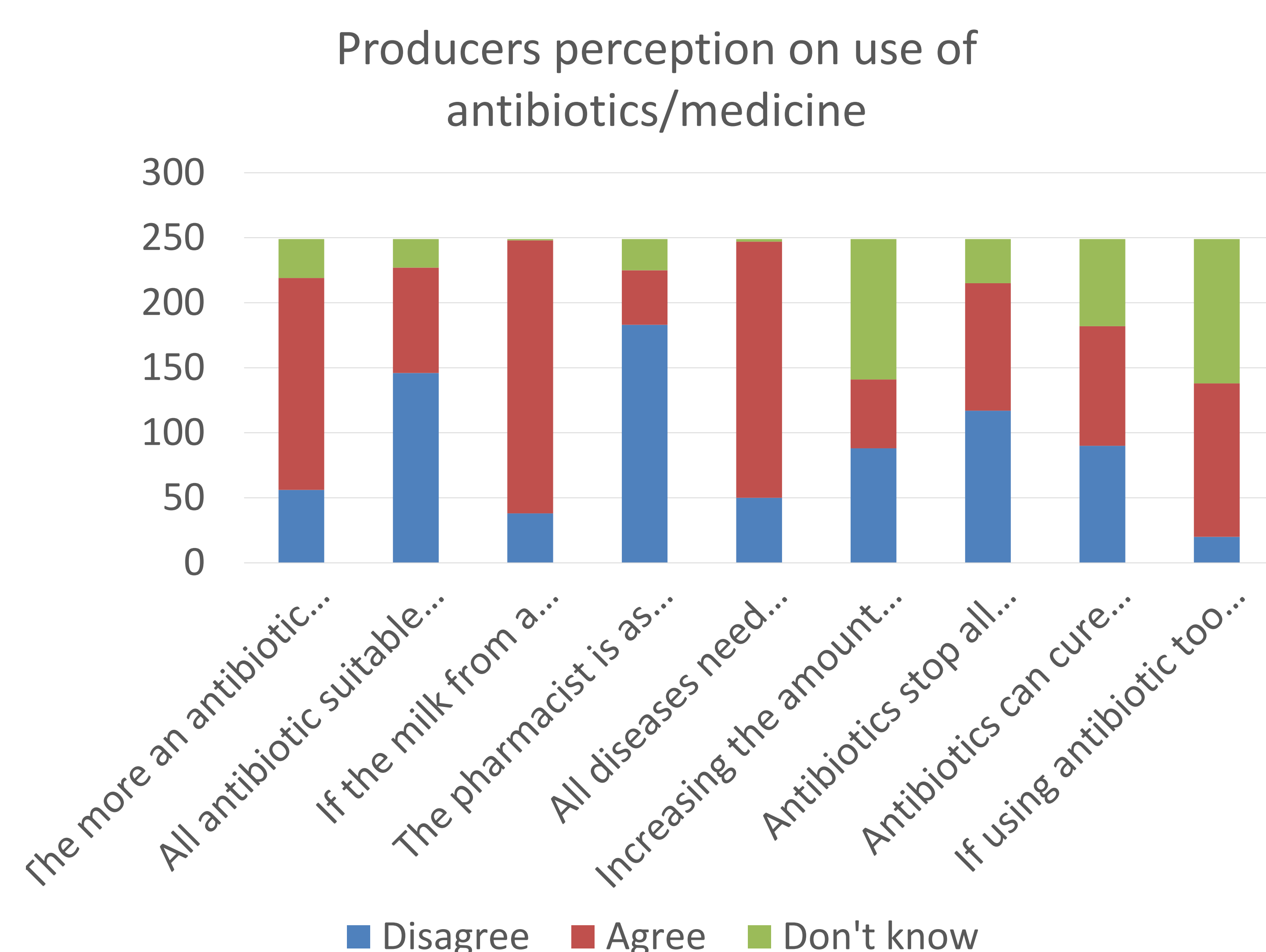
## Antibiotics in the Indian dairy value chain

A major concern in India is the overuse and misuse of antibiotics both in the human and animal sector due to the unregulated access. Previous studies have shown that it is common with antibiotic residues in dairy products, and mastitis bacteria are often found to be resistant to one or more classes of antibiotics. The objectives of this study was to:

- Assess knowledge and practices regarding antibiotic use among dairy farmers in the states Haryana and Assam
- Understand the pattern of antimicrobial resistant bacteria in bulk milk at farm level
- Detect antibiotic residues in the milk aimed at consumption

## Results

- Farmers unaware about what antibiotics are or what withdrawal periods are
- Farmers seldom know what medicines the animals are treated with



## Gram positives

All isolates having resistance

25 MecA genes detected

2 MecC genes detected

## Gram negatives

173 out of 236 isolates resistant

### Methods

- ✓ 3 districts in each state, 80 households per district
- ✓ Questionnaire on knowledge and practices
- ✓ One bulk milk sample per household
- ✓ Gram negative and positive bacteria cultured and tested for resistance genes
- ✓ Antibiotic residues evaluated using quantitative rapid tests

## Conclusions

- Farmers have too low knowledge about antibiotics to be able to use it appropriately
- Antibiotic resistant bacteria in milk may pose a serious public health threat

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