

**IDENTIFICATION OF MULTIDRUG RESISTANT *Escherichia coli*
SHIGA TOXIN PRODUCING IN RAW MILK SAMPLES FROM
SEVERAL DAIRY COOPERATION OF EAST JAVA PROVINCE,
INDONESIA**

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ABSTRACT

This study aimed to identify the presence of MDR STEC isolated from raw cow's milk from several Dairy Cooperation in East Java Province using Kirby Bauer Disk Diffusion and PCR method. Raw milks were taken from four locations: Kertajaya Kediri Dairy Cooperation, Argopuro Probolinggo Dairy Cooperation, Semen Blitar Dairy Cooperation, and Suka Makmur Pasuruan Dairy Cooperation. Isolation and identification in terms of bacteria using selective media and IMViC biochemical test were conducted. Antibiotic sensitivity testing using disc diffusion method was performed on 5 types of antibiotics: Tetracycline, Streptomycin, Trimethoprim, Chloramphenicol and Aztreonam. Positive isolates which resistant to 3 or more antibiotic disks then were grouped into MDR bacteria. Then, the MDR *Escherichia coli* isolates proceed with PCR method to identify the *stx2* gene. Positive samples containing *E. coli* found in 139 out of 200 samples (69.5%). For antibiotic sensitivity testing, found *E. coli* which were resistant to Tetracycline (15.11%), Streptomycin (12.23%), Trimethoprim (9.35%), Chloramphenicol (5.76%) and Aztreonam (2.16%). Ten isolates were identified as MDR *E. coli*, which further tested to PCR for *stx2* gene identification. Thus, MDR *E. coli* were positive in 10 isolates (7.19%) and 1 MDR *E. coli* isolate was positive for *stx2* gene (10%).

Key words: Milk, *Escherichia coli*, Multidrug Resistant, *stx2*.