

ABSTRACT

Escherichia coli O157:H7 is one of the pathogens that cause food poisoning which is often transmitted through poultry such as chicken. The use of bacteriophage as a biocontrol agent in food products has been used to control pathogenic bacteria without changing the smell, color, aroma, and texture of food products. This study was conducted to determine the effectiveness of bacteriophage SK 1-1+2 in lysing *Escherichia coli O157:H7* and the effectiveness of bacteriophage as a biocontrol of *Escherichia coli O157:H7* growth in chicken meat. This type of research uses quantitative descriptive methods using experimental methods. Based on the results of the effectiveness test, it was found that bacteriophage isolate SK 1-1+2 was able to lyse *Escherichia coli O157:H7* bacterial cells by decreasing the absorbance value of the bacteriophage addition treatment compared to the control without the addition of bacteriophage SK 1-1+2. Bacteriophage SK 1-1+2 can be used as a biocontrol of *Escherichia coli* growth in chicken meat by reducing the number of *Escherichia coli* cells.

Keywords: *Bacteriophage, Biocontrol, Chicken meat, Escherichia coli O157:H7*

ABSTRAK

Escherichia coli O157:H7 adalah salah satu patogen penyebab keracunan makanan yang sering ditularkan melalui unggas seperti ayam. Penggunaan bakteriofage sebagai agen biokontrol pada produk pangan telah digunakan untuk mengendalikan bakteri patogen tanpa mengubah bau, warna, aroma, dan tekstur pada produk pangan. Penelitian ini dilakukan untuk mengetahui efektivitas bakteriofage SK 1-1+2 dalam melisis *Escherichia coli* O157:H7 serta efektivitas bakteriofage sebagai biokontrol pertumbuhan *Escherichia coli* O157:H7 pada daging ayam. Jenis penelitian ini menggunakan metode deskriptif kuantitatif menggunakan metode eksperimental. Berdasarkan hasil uji efektivitas didapatkan isolat bakteriofage SK 1-1+2 mampu melisis sel bakteri *Escherichia coli* O157:H7 dengan menurunnya nilai absorbansi perlakuan penambahan bakteriofage dibandingkan kontrol tanpa penambahan bakteriofage SK 1-1+2. Bakteriofage SK 1-1+2 dapat dijadikan sebagai biokontrol pertumbuhan *Escherichia coli* pada daging ayam dengan menurunkan jumlah sel *Escherichia coli*.

Kata kunci: Bakteriofage, Biokontrol, Daging ayam, *Escherichia coli* O157:H7