

## ABSTRAK

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HUBUNGAN FAKTOR KONTAMINASI TERHADAP DETEKSI BAKTERI *SALMONELLA SP.* SERTA KONFIRMASI GEN *INV A* PADA MAKANAN TRADISIONAL LAWAR PLEK DI DESA KETEWEL, GIANYAR.

xvi + 94 Halaman + 11 Tabel + 10 Lampiran

Lawar plek merupakan makanan tradisional Bali yang disajikan dalam kondisi mentah atau setengah matang dan berpotensi menjadi media pertumbuhan bakteri patogen, salah satunya bakteri *Salmonella sp.*. Penelitian ini bertujuan guna mengetahui hubungan antara faktor kontaminasi dengan keberadaan bakteri *Salmonella sp.* serta konfirmasi gen *invA* sebagai indikator virulensi.

Penelitian ini ialah studi observasional analitik dengan pendekatan *cross-sectional*. Sebanyak 39 sampel dikumpulkan dari 13 pedagang di Desa Ketewel, Gianyar, yang terdiri dari sampel darah, daging mentah, dan lawar plek. Identifikasi bakteri *Salmonella sp.* dilakukan menggunakan metode kultur pada media Salmonella Shigella Agar (SSA), sedangkan deteksi gen *invA* dilakukan dengan *Real-Time* PCR. Dari 39 sampel, 33 sampel (84,6%) positif bakteri *Salmonella sp.* dan hanya 5 isolat (15,2%) yang mengandung gen *invA*.

Hasil uji statistik dengan metode *Chi Square* memperlihatkan bahwa tidak terdapat hubungan yang signifikan antara kualitas bahan baku, kondisi peralatan, dan kebersihan lingkungan dengan deteksi bakteri *Salmonella sp.*. Temuan ini menunjukkan bahwa kontaminasi bakteri *Salmonella sp.* masih tinggi pada produk makanan tradisional ini, meskipun faktor kontaminasi yang diamati tidak berhubungan secara statistik, sehingga perlu dilakukan upaya edukasi dan peningkatan higienitas pada seluruh tahapan pengolahan.

Kata kunci: *Salmonella sp.*, gen *invA*, lawar plek, kontaminasi, *Real-Time* PCR  
Daftar bacaan: 42 buku (2017 – 2024)

## ABSTRACT

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RELATIONSHIP OF CONTAMINATION FACTORS TO THE DETECTION OF BACTERIA *SALMONELLA SP.* AND *INV A* GENE CONFIRMATION IN TRADITIONAL FOOD LAWAR PLEK IN KETEWEL VILLAGE, GIANYAR.

xvi + 94 Pages + 11 Tables + 10 Attachments

Lawar plek is a traditional Balinese food served in raw or undercooked conditions and has the potential to become a medium for the growth of pathogenic bacteria, one of which is *Salmonella sp.* bacteria. This study aims to determine the relationship between contamination factors and the presence of *Salmonella sp.* bacteria as well as confirmation of the *invA* gene as an indicator of virulence.

This study was an analytical observational study with a cross-sectional approach. A total of 39 samples were collected from 13 vendors in Ketewel Village, Gianyar, consisting of blood, raw meat and lawar plek samples. Identification of *Salmonella sp.* bacteria was performed using the culture method on Salmonella Shigella Agar (SSA) media, while *invA* gene detection was performed by Real-Time PCR. Of the 39 samples, 33 samples (84.6%) were positive for *Salmonella sp.* bacteria and only 5 isolates (15.2%) contained the *invA* gene.

The results of a statistical test using the Chi Square method showed that there was no significant relationship between raw material quality, equipment condition, and environmental cleanliness with the detection of *Salmonella sp.* bacteria. These findings indicate that *Salmonella sp.* bacterial contamination still exists in these traditional food products, although the observed contamination factors are not statistically related, so it is necessary to educate and improve hygiene at all stages of processing.

Key words: *Salmonella sp.*, *invA* gene, lawar plek, contamination, Real-Time PCR

Reading list: 42 books (2017 – 2024)