Anthrax vaccine 34F₂ Sterne strain growth in nutrient agar and soyabean casein digest agar

S.Parthiban¹*, Lancy Mammen² S.R.Kalaivani³ V.Sundrapandian⁴ and A.Habibur Rahman⁵

Institute of Veterinary Preventive Medicine, Ranipet.

ABSTRACT

The most widely used strain for anthrax vaccine production is 34F₂ Sterne strain. The aim of the study was to determine a suitable solid media for the cultivation of 34F₂ Sterne strain for large scale vaccine production. Seed material (34F₂ Sterne strain) was cultured in 70 Roux flasks each containing Nutrient agar and Soyabean casein digest agar separately and allowed for sporulation. The spores were washed with sterile saline and the pure spore suspensions were pooled and weighed separately. The weight of the spore suspension was 1.801 kg and 1.830 kg for Nutrient agar and Soyabean casein digest agar respectively. The number of live spore was 1:250 in 1 ml of 10⁻⁷ dilution for both Nutrient agar and Soyabean casein digest agar grown spore suspensions. The spore weight and spore count are almost equal for the both the solid media but based on cost and quantity of medium required the Nutrient agar is preferred over Soyabean casein digest agar.

Key words: Anthrax, 34F₂ Sterne strain, Growth, Nutrient agar, Soyabean casein digest agar.

INTRODUCTION

Anthrax, an acute bacterial disease of primarily herbivores, is transmissible to humans. Mortality can be very high, especially in herbivores. The disease has world-wide distribution and is a zoonosis [1, 7]. The etiological agent is the endospore-forming, Gram-positive, nonmotile, rod-shaped Bacillus anthracis [5]. The bacilli secrete three