Occurrence of bacteria of the genus *Staphylococcus* in table eggs descended from different sources

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Abstract

This paper presents the degree of contamination of table eggs with bacteria of the genus *Staphylococcus*, taking into account the source of the eggs. The results of the study indicate a relatively high degree of contamination of table eggs with *Staphylococcus* bacteria. In 1125 bacteriological tests conducted on whites, yolks and shells of eggs from three sources, staphylococci were found in 514 cases. Thirteen strains were isolated from the whites, but *Staphylococcus* bacteria were found more often in yolks – 199 strains. The highest percentage of staphylococci were found on the surface of the egg shell – 302 strains. Twelve species of staphylococci were isolated from the eggs tested, including both coagulase-positive strains (*Staphylococcus aureus*, *S. hyicus*) and coagulase-negative strains, particularly *Staphylococcus lentus*, *S. warneri*, *S. epidermidis* and *S. xylosus*. This study determined that regardless of the source of the eggs, egg yolks were more often contaminated with *Staphylococcus aureus* than with coagulase-negative Staphylococci. It was also demonstrated that *S. aureus* dominated in the yolks and on the shells of eggs from the small-scale poultry farm.

Key words: table eggs, *Staphylococcus* contamination

Introduction

Bacteria of the genus *Staphylococcus* are the cause of serious losses in poultry production. They are an etiological factor in many diseases in birds, inducing local inflammation in the skin (dermatitis) and subcutaneous tissue (cellulitis). In meat poultry, they are often implicated in cases of inflammation of the tarsal joints, metatarsus and digits (arthritis) or of the bone marrow (osteomyelitis). Staphylococci also play a role in poultry diseases of complex etiology, such as chronic conjunctivitis in young chickens and turkeys, inflammation of the navel and gall bladder, blue wing disease, and green-liver osteomyelitis complex (Cheville et al. 1988, Andreasen 2003). The rise in recent years in staphyloccocal infections in poultry flocks (Wieliczko et al. 2002) may be a significant factor leading to epidemiological threats for consumers. Moreover, Staphylococcal bacteria are widespread in nature. They are frequently isolated from water, soil, air and food products. Many *Staphylococcus* species are part of the natural microflora in humans and animals (including birds), which increases the risk of contamination of food, including animal products.

A review of the literature shows that consumer health can also be threatened by eggs or egg products...