
Poster

Food microbiology analysis. Coagulase-positive Staphylococcus count method verification according to ISO 16140.



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ABSTRACT

Staphylococcus aureus and other coagulase-positive staphylococcus are bacteria with the capacity to produce staphylococcal enterotoxins, that can produce a lot of food poisonings manifested as nausea, vomits and diarrhoeas. The Spanish Association for Standardization (UNE in Spanish) has published some changes to the specifications that specify methods for coagulase-positive Staphylococcus count [1]. One of these rules, the UNE-EN ISO 6888-1:2021, is the one that has been followed in this Master's Thesis, together with the verification according to ISO 16140 [2].

UNE-EN ISO 6888-1:2021 details a horizontal method for counting coagulase-positive staphylococci by counting the colonies obtained on a solid medium (Baird-Parker) after an incubation period between 34 and 38 °C. After this, the confirmation by coagulase takes place [1]. In this case, the test is carried out on 5 samples of 5 different foods: egg, meat, cheese, cake and cooked food.

Colonies suspected of being coagulase-positive staphylococci are black or gray, shiny, and convex and surrounded by a translucent halo that may be partially opaque. After 24 h of incubation, a count of those typical colonies is carried out. And, later, the confirmation is carried out. This is done by incubation of the colony in brain-heart medium and rabbit plasma, in which it is determined positive if a large compact clot is observed [1].

Moreover, during my Master's Thesis I have been involved in the analysis of many different food samples as well as water for the detection of different microorganisms like Enterobacter, Salmonella, etc.

REFERENCES

1. UNE (2022), Microbiology of the food chain - Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) - Part 1: Method using Baird-Parker agar medium (ISO 6888-1:2021).
2. UNE (2022), Microbiology of the food chain - Method validation - Part 3: Protocol for the verification of reference methods and validated alternative methods in a single laboratory (ISO 16140-3:2021).