

Multilocus Sequence Typing And Antibiotic Resistance Of *Staphylococcus Aureus* Isolated From The Brazilian Dairy Industry - DTU Orbit (08/11/2017)

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Staphylococcus aureus is a common cause of food poisoning due to enterotoxin production. This is particularly an issue in the dairy industry, where *S. aureus* can contaminate the product e.g. from raw milk or the handlers. In Brazil, soft cheese is mainly produced in small dairy plants where good hygiene practices can be limited. The aim of this study was to determine if Brazilian dairy plants were contaminated by *S. aureus*, and if any clones were persistent. Four dairy plants were sampled during 8 months (398 samples in total). *S. aureus* (n=66) was found in all the dairy plants but the contamination rate varied between the processing plants. Multilocus Sequence Typing was used to type and assess potential persisting sequence types (ST). Seven known STs (ST1, ST5, ST30, ST97, ST126, ST188, ST398) were identified. Three new STs were identified and they all belong to clonal complex (CC) 1, which was the dominant CC in the investigated dairy plants. However, there were no indications of re-occurring (persistent) STs in the plants. The potential health risk of the isolates was assessed by antibiotic resistance and hemolytic activity screening. Resistance levels were low, and all of the isolates were presumptive methicillin-sensitive *S. aureus*. All of the isolates expressed hemolytic activity. The frequent isolation of CC1 strains in Brazilian dairy plants indicates, despite antibiotic sensitivity, a potential health risk to the human consumer.

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