

## عنوان مقاله:

Growth and toxigenesis behavior of Clostridium botulinum type E in Persian sturgeon (*Acipenser persicus*) Caviar prepared with various preservatives

## محل انتشار:

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## خلاصه مقاله:

Growth behavior of Clostridium botulinum type E beluga was studied in *Acipenser persicus* granular caviar treated with 5% NaCl, 5% NaCl plus 0.3% boric acid and 0.4% borax and 5% NaCl plus 0.15% methyl paraben incubated at temperatures -2, 5 and 15 °C for 224 days. The initial number of inoculated bacterial spore was  $5.1 \times 10^4$  cfu/g caviar in each treated sample. The number of bacterial spores in samples treated with 5% NaCl changed to  $3.59 \times 10^4$ ,  $1.02 \times 10^5$  and  $9.9 \times 10^5$  cfu/g at -2 °C, 5 °C and 15 °C, respectively, while those samples treated with 5% NaCl plus 0.3% boric acid and 0.4% borax changed to  $1.56 \times 10^4$ ,  $3.65 \times 10^4$  and  $9.22 \times 10^4$  cfu/g, respectively. Also, number of bacterial spores in samples treated with 5% NaCl plus 0.15% methyl paraben changed to  $1 \times 10^4$ ,  $2.86 \times 10^4$  and  $3.56 \times 10^4$  cfu/g at the above storage temperatures, respectively. Fourteen days postinoculation, toxin production was positive in samples treated with 5% NaCl incubated at 5 °C and 15 °C, while those samples treated with 5% NaCl plus 0.3% boric acid and 0.4% borax were positive for toxin production only at 15 °C. Toxin production was negative in samples treated with 5% NaCl plus 0.15% methyl paraben incubated at all three above mentioned temperatures. These data showed that 5% NaCl plus methyl paraben had more inhibitory effect than boric, borax and NaCl. Also, such inhibitory effects can be increased at lower storage temperature of -2°C. Therefore, due to restricted usage of boric acid and borax in granular caviar, use of methyl paraben can be recommended as a safe preservative with a strong antimicrobial effect at caviar pH

## کلمات کلیدی:

Caviar, Clostridium botulinum, preservative

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