Literature review on microbiological hazards associated with biltong and similar dried meats

Area of research interest: Foodborne pathogens
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Conducted by: Campden BRI

Background

In recent years there has been an apparent growth in the availability of biltong, jerky and similar types of dried meats in the UK. Whilst the vast majority of these products appear to be imported there seems to be an increase in production of these products in the UK. It was felt that more evidence of the hazards associated with small scale production of this type of food was required with the aim of providing Local Authorities (LAs) and Food Business Operators (FBOs) with practical, evidence-based advice on safe manufacturing procedures.

Research Approach

The need for a literature review was identified to gather information on the microbiological hazards that may be associated with biltong and similar dried meat products and the processes and controls to ensure their safe manufacture and shelf life stability taking into account:

The guidance currently available on the manufacture of biltong and similar dried meat products products from international authorities, food research associations and industry etc. including:

- the key microbiological risks that this guidance has identified in terms of pathogens and spoilage microorganisms
- the key controlling factors and CCPs that this guidance has identified to aid the safe production of biltong and similar dried meat products from a microbiological perspective
- Relevant information available in the scientific literature concerning microbiological risks and key controlling factors for biltong and similar dried meat products
- Relevant information available in the scientific literature concerning risks associated with parasites and key controlling factors for biltong and similar dried meat products

Results

The key findings from the literature review are as follows:

- Biltong can be manufactured in several ways using a similar approach involving marination and low temperature drying

- Reduction in pathogens in biltong increases as water activity is reduced, and relies on both the marinade and the drying process.
- Traditional biltong production uses marination followed by low-temperature drying to a water activity around 0.7 to 0.75, although some biltong manufacturers may use a higher water activity
- Solar drying or drying using unheated air are not suitable in the UK climate
- A robust HACCP plan should be put in place which considers a number of factors including: quality and storage of raw materials; use of an acidic marinade; and hygienic preparation practices
- No guidance documents have been published on the manufacture of biltong.
- Jerky differs from biltong in that it is dried at higher temperatures or is smoked/cooked before drying
- Several guidance documents are available on the manufacture of jerky. These documents come from the US and New Zealand and provide details on the process conditions to make a safe product

Research report

England, Northern Ireland and Wales

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