

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

LITERATURE REVIEW ON MICROBIOLOGICAL HAZARDS ASSOCIATED WITH BILTONG AND SIMILAR DRIED MEAT PRODUCTS

Introduction

1. The Agency has been made aware of a number of incidents in recent years involving biltong production in the UK and it was felt that more evidence of the hazards associated with small scale production of this type of food is required in order to provide advice to Local Authorities (LAs) and Food Business Operators (FBOs) with practical, evidence-based advice on safe manufacturing procedures.
2. 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.

Background

3. 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, we are beginning to see microbiological incidents associated with small scale manufacture of these products in the UK.
4. Understanding the manufacture and controls for these "new" foods is proving challenging for Local Authorities who have requested specific guidance from the FSA to assist them in their work with small food businesses which often do not have technical resources to guide them in the manufacture of these products.

Objectives

5. Campden BRI were commissioned to carry out a literature review with the objective of covering the following areas:
 - The types of biltong and similar dried meat products produced in the UK, and the key processes used in their manufacture.
 - The size of the market for biltong and similar dried meat products in the UK (both from UK manufacture and distribution from EU Member States and third countries) and whether this has changed significantly in the last 10 years and likely trends in the future.
 - 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.
 - Previous outbreaks and recalls associated with biltong and similar dried meat products (and, where possible, the cause of the issue).
 - Any gaps in current knowledge and where there is a need for further research.

The literature review was intended to consider information from both UK and non-UK sources.

Report

6. Copies of the Campden BRI report are provided; the report is accompanied by a presentation from Dr Roy Betts (Contractor from Campden BRI).
7. The main findings and conclusions of the report are summarised here to provide an overview :
 - 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.

8. The Agency asks Members of the ACMSF to consider the findings of the Campden BRI review in relation to the microbiological hazards associated with biltong and similar dried meat products. The Agency would like the Committee's views on whether the report provides a sound evidence base to enable the development of guidance for producers and Local Authorities where these types of products are being manufactured.

Secretariat
March 2010