The potential use of food quality colourings for staining vertebral columns of cattle

Area of research interest: Innovative regulator
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Conducted by: School of Veterinary Science, University of Bristol

Background

The rapid decline in the BSE epidemic, prompting a review of the Over Thirty Month (OTM) rule has resulted in proposed changes that required the testing of all OTM cattle, with only those testing negative for BSE being allowed into the food chain. However the dorsal root ganglia and the vertebral column (VC) from these cattle were designated as SRM and not permitted to enter the food chain. To enable butchery staff to identify carcasses that require VC removal, a simple method of marking the appropriate carcasses was required. The options available were the use of food quality colours (dyes) or to physically mark the vertebrae by mechanically scoring a groove along the entire length of the column.

Research Approach

Several dyes were evaluated but due to poor visibility and cross contamination of unstained carcasses it was concluded that staining the cut vertebral surface with dyes was unsatisfactory. Staining the spinal canal using meat marking pencils or applying a green dye with a narrow brush were found to be effective as was cutting a groove in the vertebrae, these methods were considered to offer a realistic solution

Results

The conclusions from this task are marking the VC by cutting a groove with a pneumatic angle grinder is a workable method that has several advantages. Marking the spinal canal with meat marking pencils provides only a weak visual signal and is unacceptable but the green dye, if carefully
applied so that it is confined to the canal, provides a strong signal with minimal contamination of meat. To prevent/reduce any possible cross-contamination of sides by pathogens/infective material, any equipment that comes into contact with carcass tissues should be immersed in a sterilizer after completion of marking a side. This would apply to any brushes used as well as a cutting disc. It would also be advantageous to have a paint delivery system that precludes the brush being repeatedly immersed in a reservoir of dye. These points should be considered by the relevant authorities.

Research report

England, Northern Ireland and Wales

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