

L.18.- Overview of current and alternative slaughter practices

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The conventional slaughtering of cattle includes some critical process stages where a carry over of Specified Risk Material (SRM: brain, spinal cord) on the meat and meat contact surfaces can occur. These processes are captive bolt stunning, cut off the head and first of all carcass splitting (sawing the spine lengthways). Captive bolt stunning results in massive brain tissue damage with bleeding, and in some cases brain tissue also emerges from the hole made by the bolt. As the heart is still functioning, there is a risk of brain tissue particles being transferred via the blood flow to heart and lungs or even in the whole carcass. This contamination risk is actually assessed to be low, but a continuing leakage of CNS material from the captive bolt aperture in the further slaughter process may lead to direct and indirect contamination to carcass meat and equipment. Therefore alternative stunning methods like electrical stunning or concussion stunning are under investigation or already installed (electrical stunning). A further critical point is the treatment of the head. When the head is removed, the spinal cord is cut with a knife. There is a danger of cross contamination due to spinal protein that may adhere to the knife and because of liquid cerebrials, which leaks from the foramen occipitale magnum. Further head cleaning with hand-held hoses following skinning also includes the danger of cross contamination from cleaning water or aerosol. The most critical point in terms of contamination of the meat surface with SRM is the currently common practise of sawing the spine vertically in the middle with hand-guided belt-type saws. A mixture of sawing residues and rinsing water ("sawing sludge") collects in the housing of the saw, and if it contains infectious material this leads to contamination of the subsequent carcasses. The most promising methods available at present for minimising this risk appear to be in manual cattle slaughtering boning the entire (not split) carcass, either still warm or refrigerated and in industrial beef cattle slaughtering extraction of the spinal cord by vacuum from the whole carcass followed by conventional sawing or completely sawing out the spine including spinal ganglia.

Keywords

Cattle slaughtering, Specified Risk Material, Captive bolt stunning, Carcass splitting