DIFFICULTIES THAT INDUSTRY HAS TO FACE TO ADOPT NON-TRADITIONAL METHODS

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Industry has the primary responsibility for ensuring the safety of the foods produced and therefore should employ the most current and effective production controls. Examples of newer control interventions in the meat processing industry include the use of steam pasteurization, hot water or chemical decontamination, and steam vacuuming (Jay, 1997; Sofos and Smith, 1998).

From the various new methods industry can employ to control the risk of pathogenic bacteria, one of the simplest in practice is the treatment of beef carcasses with antimicrobial compounds. Selection must be based on the following requisites: a) effectiveness against broad spectrum of pathogens; b) the active ingredient must be generally recognized as safe; c) should not show adverse organoleptic effects on taste, texture, appearance and flavour; d) should be cost affordable; e) capital investment required to use should be reasonable; f) must be water soluble and present low chemical aggression to machinery; and g) controllable for HACCP purposes.

Scientific papers provide a vaste information about the effectiveness of a compound against tested microorganisms, however the specific application was not assayed in some cases. Although there is a general consensus about the safety of organic acids for example, some novel compounds are not accepted by all meat regulatory agencies and this is critical when the meat is intended for world-wide sale. Governments policy should be based on scientific principles but there is often a lack of sound data on which to formulate policies. The influence on organoleptic attributes of meat requires extensive testing and normally this grade of time and effort cannot be spent by meat processors. The use of the compound should be economically feasible in terms of dollars per pound hook weight. When commercially available, the equipment necessary to use should fit into the flow of the slaughtering floor, otherwise it will require a huge and sometimes unaffordable investment. Occasionally, available equipment is not capable of adapting to carcasses very variable in size and shape.

While the treatment must not substitute for sanitary dressing measures to prevent contamination from occurring in the first place, it can help reduce the risk that a carcass will leave the killing floor with dangerous levels of pathogenic microorganisms. For this reason, a very careful hazard analysis must be conducted before deciding to introduce the treatment as a critical control point. Simple, unexpensive, fast monitoring devices do not always exist. For validation purposes a considerable number of samples for microbiological analysis could be necessary in particular when preventive measures along the killing line are effective enough to deliver clean carcasses.

Some food companies conduct considerable research on the safety of their respective foods, but this knowledge is considered propietary information and is not routinely shared with other companies, the government, or the public. The microbiological specifications and guidelines for ingredients and foods must be made available to these other interested parties. Establishment of a central clearing house maintained by an independent group to ensure the confidentiality of truly propietary information would be one mechanism for doing so.

As a summary, it seems unlikely that a promising compound at the laboratory level gains its entry into the factory, unless a vendor spends his time and money conducting all tests required to answer the questions and satisfy the requirements of industry.

References

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