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The use of computer algorithms to evaluate attribute sampling plans in food safety.

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This presentation commences with a general outline of attribute sampling plans (ASP's) and their use for managing food safety issues (history, definitions and terminology). ASP's will be compared and contrasted to other forms of aggregate testing that veterinarians are more familiar with (especially herd testing), and the relevance of ASP's to risk-based decision making in food safety will be briefly addressed. The second part summarises original research that aimed to compare the characteristics of different ASP's when used to assess the hygiene of red meat carcasses. The work evaluated ASP's that are in current use in the production, regulation and international trade of meat. An explanation will be given of how algorithms were derived in the macro language of the Stata data analysis package and how they were then applied to six years of national data consisting of one third of a million lines of results on the concentration of generic E.coli per unit area of carcass. Using this approach it is possible to produce a visual comparison of the performance of different ASP's when applied to identical production output. Ramifications for decision making in food safety will be mentioned.