Risk Analysis Terminology

Animal Health Risk Analysis
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Analyse des risques de la santé des animaux
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**Canadian Food
Inspection Agency
(CFIA)**

**Agence canadienne
d'inspection des aliments
(ACIA)**

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Hazard: an agent that can cause adverse effects (e.g. an organism that is a necessary cause of an animal disease). A hazard is an element or event that poses potential harm; an adverse event or adverse outcome.   A hazard is identified by describing what might go wrong and how that might happen (Ahl and others 1993). Covello and Merkhofer (1993) defined hazard as a (potential) source of risk that does not necessarily produce risk. A hazard produces risk only if an exposure pathway exists and if exposures create that possibility of adverse consequences. Hazard identification is the process of identifying new agents in sources of risk. Risk sources may release risk agents to the air, soil, surface water, or groundwater. The risk agents released may be either chemical, physical, biological, or forms of energy.

Hazard identification: the process of identifying the biological agents which could potentially be introduced with a commodity or activity and for which pathways exist for exposure of the agents to susceptible animals and man.

Model: A representation of an activity or process in mathematical form in which an equation is used to stimulate the behaviour of the component events, states of nature, risk management actions and biological processes under study.

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Model Inputs: represent the components of a model. Terms that are often used interchangeably with model inputs in risk analyses are the words 'inputs,' 'variables,' 'factors,' or 'parameters'. Use of the latter term 'parameter' may lead to confusion with its use in experimental statistics. There the term parameter represents the numerical descriptive measure that characterizes a population, for example the population mean (m), the population standard deviation (s) and the binomial proportion p. The slope and intercept are parameters of a least squares univariate regression model. The term parameter is used in spreadsheet computer software to represent the arguments of a mathematical of statistical function and the parameters of a probability distribution such as the shape parameters of the beta distribution or the parameters of a normal distribution, the mean and standard deviation. The word 'variable' is best defined as a characteristic that changes or varies over time and/or for different individuals or objects under consideration.

Monitor and review: to observe, audit and review the events or consequences following the risk management decision. It may include periodic or continuous surveillance or testing to determine the characteristics of the risk source or the health status of animal and human populations (Covello and Merkhofer 1998).

Option Evaluation: the process of appraising, weighing and comparing outcomes of risk management options (Covello and Merkhofer 1998). The identification of the option and selecting the option after its evaluation are included in the definition of option evaluation.

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Risk: the likelihood of the occurrence and the magnitude of the consequences of an adverse event; a measure of the probability of harm and the severity of impact of a hazard. Objective measurement and scientific repeatability are hallmarks of risk. In risk studies, it is common especially in oral communication to use "risk" synonymously with the likelihood (probability or frequency) of occurrence of a hazardous event. In such instances, the magnitude of the event is assumed to be significant (Ahl and others 1993).

Risk analysis: the process that includes risk assessment, risk management and risk communication.

Risk assessment: the process of identifying a hazard and estimating the risk presented by that hazard. It is the process of identifying a hazard and evaluating the risk of a specific hazard, either in absolute or relative terms. It includes estimates of uncertainty in process, and is an objective, repeatable, scientific process. Quantitative risk assessment characterizes the risk in numerical representations (Ahl and others 1993).

Risk Assessment Document: a report of the evidence, methodology, results and recommendations of a risk assessment to ensure a transparent risk assessment process.

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Risk communication: the open exchange of information and opinion, leading to a better understanding of risk and risk related decisions; the processes by which the results of the risk assessment and proposed risk management measures are communicated to the decision-makers and interested parties in the importing and exporting countries. It is a tool to provide a forum for interchange with all concerned about the nature of hazards, the riskassessment and how the risks should be managed; a tool to assure unambiguous interchange of information among those affected by the outcome of risk assessment activities (Ahl and others 1993).

Risk Evaluation: the process of interpreting risks, including determining levels of risk acceptable to individuals, groups or society as a whole (Covello and Merkhofer 1993). The risk management aspect concerned with the initial decision to request a risk assessment is included in this definition.

Risk management: the process of identifying, evaluating, selecting and implementing alternatives for mitigating risk. It is the pragmatic decision-making process concerned with regulating the risk. As a decision process, it is involved in evaluating options to diminish or control present and predicted hazards to the biological and/or fiscal health of agricultural commodities. The decisions made may result in preventive or restorative actions. Risk managers make implicit judgements about the safety of particular courses of action (Ahl and others 1993).

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Risk reduction options or mitigation measures: any action or actions which reduces the risk of an agent to cause harm (to domestic livestock); they may be applied to any commodity. Examples include quarantine, diagnostic testing, inspections, restricted use, processing, sentinel monitoring, etc (Ahl and others 1993).

References

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