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Decision support for risks managers in the case of deliberate food contamination: The Dairy Industry as an example

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ABSTRACT

Dairy farms were identified, which can be included in a contingency plan set up to prevent or mitigate the consequences of deliberate contamination of a food supply chain. The deliberate introduction of a contamination into the supply chain of milk was simulated in a scenario where milk producers serve as the entry sources and consumers of milk represent the target to be affected by the contamination. It is shown that the entry sources have an impact on the damage caused, i.e. in terms of the number of consumers reached. A contingency plan is provided that contains a list of entry sources ranked according to their impact on the damage to consumers. To generate this list, a computer program was developed that simulates the impact of the contaminations on consumers via the trade of contaminated milk. Possible variations in the trade links between milk producers, dairies and consumers as well as between dairies are considered. It is investigated how these trade links alter the generated list of entry sources.

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