final report

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Risk assessment of food safety aspects of new animal disease – practical application

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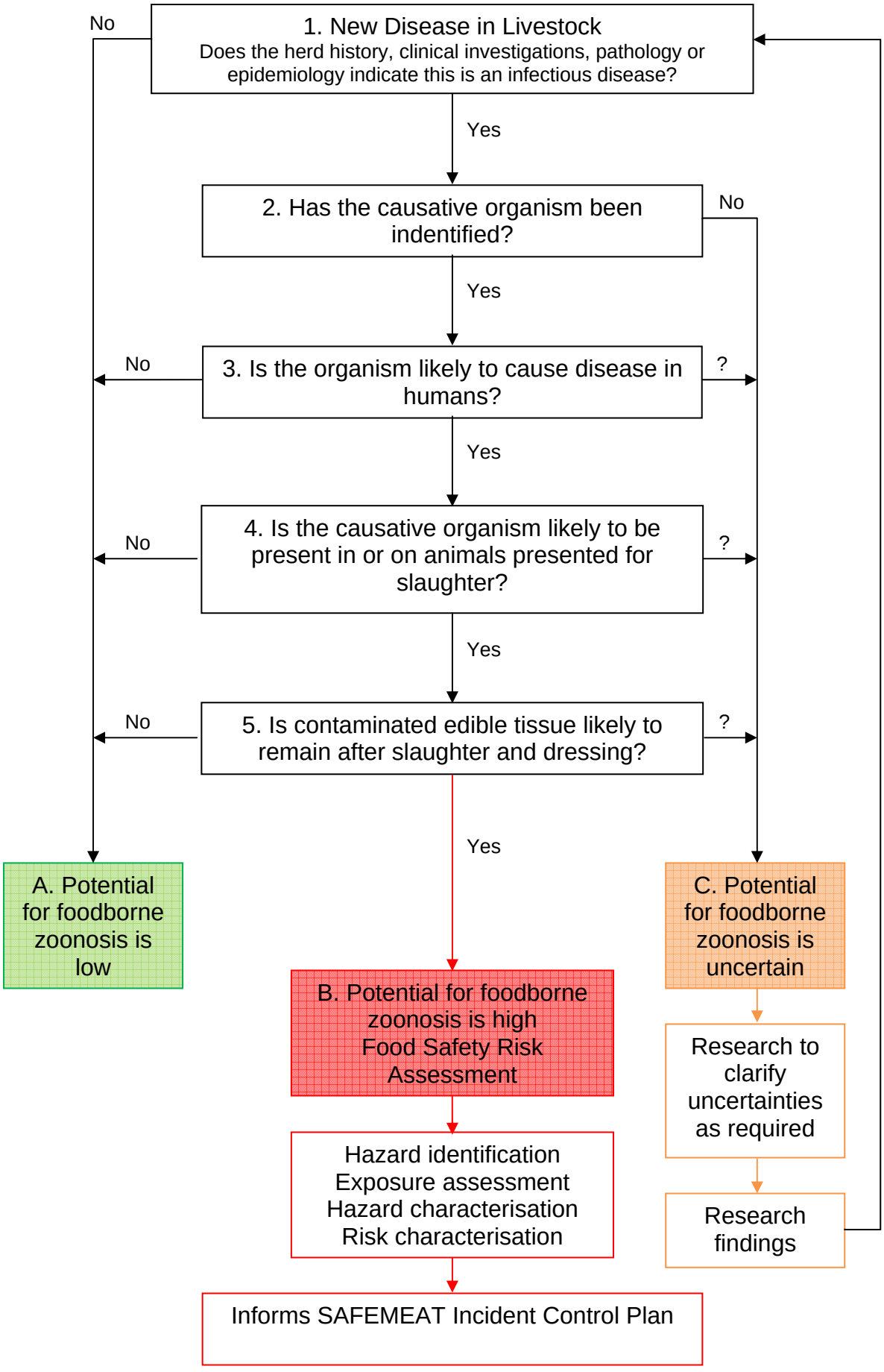
Scientific Risk Tool to Assess the Potential for Foodborne Zoonosis in Fresh Meat Products



Scientific Risk Tool to Assess the Potential for Foodborne Zoonosis in Fresh Meat Products

Questions that accompany the risk tool to help assessors focus on the important issues that need to be addressed at each step of the decision pathway

Hazard Identification

Box 1

What is the case definition of the disease X?

Clinical signs, identification or evidence of a causative organism, other diagnostic tests, pathological changes, morbidity, mortality, age and type of stock affected.

What other factors (environmental, other pathogens, genetic susceptibility) are required for clinical disease to occur in animals?

What is the mode of transmission?

What do we know of the epidemiology of this disease? Is this a propagating or a point source epidemic?

Is there an intermediate host / vector required to cause infection?

What is the incubation period?

What is the latency period?

Is there evidence of sub clinical carrier animals?

Can the disease be treated? How?

Box 2

Has a potential disease agent been characterised?

Is there evidence of the disease agent? DNA?

Are there other non-specific indicators of infection?

Hazard Characterization

Box 3

What is the route of transmission?

Is this type of pathogen known to infect different species? Or, is this type of pathogen known to be species specific?

What effect does cross species infection have on the virulence and pathogenicity of the micro-organism?

Is there evidence of human infection detected through serological surveys?

Exposure assessment

Box 4

What are the effects of individual, farm, season and geographical location on the prevalence/quantity of the disease agent?

Will infected farms and / or animals be detected and excluded from slaughter for human consumption?

Sensitivity of diagnostic tests, latent infections, non-clinical carriers and regulatory controls to restrict movement of infected animals.

What are the effects of control measures on disease prevalence?

What are the effects of mixing and cross contamination during transport, sales and lairage on the shedding of the disease agent?

What is the level of microbial contamination / toxin expected to be associated with an infected animal?

Will routine pre-slaughter inspection of livestock detect diseased or carrier animals?

Box 5

Will routine meat inspection procedures detect infected / high risk carcasses?

Which tissues of an infected animal are likely to be contaminated with the pathogen?

Can the organism grow outside of living cell?

Under what environmental conditions does the organism survive and grow?

Do the micro-organisms produce toxins or spores? If yes, under what conditions?

What are the effects of temperature, pH and humidity on the causative organism?

Will routine processing (bleeding, boning, removal of specific tissues) remove contaminated tissues?