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1 The Public Health and Food-Industry Burden of *L. monocytogenes*

1.1 Introduction to *L. monocytogenes* and Listeriosis

L. monocytogenes occupies a distinctive position among foodborne pathogens because it links environmental microbiology, food-chain ecology, clinical infectious disease, industrial hygiene, and regulatory control within a single public-health problem. A foodborne pathogen is a microorganism capable of causing disease after ingestion through contaminated food, and *L. monocytogenes* is especially important because it can move from environmental reservoirs, defined here as natural or built environments in which the organism can survive and from which it can contaminate food, into processing facilities and ready-to-eat foods, meaning foods consumed without an additional cooking step intended to eliminate pathogens (World Health Organization [WHO], 2018; U.S. Food and Drug Administration [FDA], 2025).

1.1.1 Definition of *L. monocytogenes*

L. monocytogenes is a Gram-positive, non-spore-forming, facultatively anaerobic bacterium that can behave as an environmental saprophyte and as an intracellular pathogen in humans and animals. The term *Listeria* spp. refers to all species within the genus *Listeria*, whereas *L. monocytogenes* refers specifically to the species most consistently associated with human invasive listeriosis; this distinction is essential because not all