

Abstract

European foulbrood is a bacterial disease attacking honey bee larvae worldwide. It is caused by bacterium *Melissococcus plutonius*, which is a non-spore-forming, Gram positive, anaerobic bacterium. The adult bees are not affected but serve as a vector of the disease as they carry the bacterium within their own bodies and can travel big distances from their hive and also may interact with other hives especially when their own colony is suffering. Once the bacterium is introduced into the colony, it either remains benign and unnoticed for years, keeping its population low, or it can multiply vigorously within the brood and destroy the entire bee populations. Despite having been described many decades ago, *M. plutonius* as such along with its virulence remain poorly understood and therefore there is no treatment efficient enough that would keep this bacterium along with the disease under control. Hence it is of a great importance to recognize its presence soon enough to prevent the outbreak. This thesis brings together the knowledge we have so far about this mysterious bacterium and sums up how European foulbrood is being treated all around the world.