# EVALUATION OF MICROORGANISMS, ISOLATED FROM BEES PRODUCTS

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Beekeeping is one of the most important subjects of agriculture and economic well–being of human [1]. The products of bees are recognised worldwide for their positive effects on human health. The most important characteristic of propolis is that it has extremely strong bactericidal and disinfectant characteristics. It is used to cure colds, treat ulcer, wounds, frostbites and joints diseases [2]. Bee pollen on the other hand provides organism with nutrients such as B group vitamins, minerals and unsaturated fatty acids. It also helps to overcome metabolic problems, reduces the activity of harmful bacteria. Therefore, bee pollen is often referred to as "fully balanced food" or "life–giving dust" [3]. Bee bread strengthens immune and nervous systems, improves blood circulation, it is considered a potential source of polyunsaturated fatty acids in the human diet [4].

From the products of bees there has been isolated lactic acid bacteria (LAB). Bacterial genus, such as *Bacillus*, are found as the major bacterial genus that can be isolated from varieties of stingless bee species. Moreover, other bacterial genera including *Streptomyces*, *Clostridium*, *Staphylococcus*, *Enterobacter*, *Ralstonia*, *Pantoea*, *Neisseria*, *Pseudomonas*, *Lysinibacillus* and *Fructobacillus* also have be found associated with stingless bees [5]. It is very important because LAB produces natural antibiotics, so called bacteriocins, that gained a huge attention of the scientists in the last century, in order to reduce the usage of synthetic food additives [6]. Moreover, bacteriocins can increase phenolic compounds, antioxidant activity or produce volatile compounds during fermentation of medicinal plants [7]. Hence, the broad spectrum of antibacterial activity of bacteriocins makes it possible to use them as biological preservatives in many foods. The composition of bacteria depends on the objects, geographic location, and according to our data there are no such studies in Lithuania, so it is important to evaluate.

Research purpose is to isolate microorganisms from bee products (bee bread, bee pollen and propolis) and after obtaining results to check if metabolites of these microorganisms inhibit the growth of other bacteria.

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