

TITLE: ANTIBACTERIAL POTENTIAL OF HONEY AND PROPOLIS

AUTHORS: PAULINO, L.G.; GEROMEL, M.R.; FAZIO, M.L.S.

INSTITUTION: INSTITUTO MUNICIPAL DE ENSINO SUPERIOR - IMES, CATANDUVA, SP (AVENIDA DANIEL DALTO S/N, RODOVIA WASHINGTON LUIS, SP 310, KM 382, CATANDUVA-SP, BRAZIL)

ABSTRACT:

Honey is a natural product of great nutritional value, since it contains sugars, water, minerals, small amount of vitamins and other nutrients. Propolis is produced when the bees mix the wax with the plant resin, which is removed from the flower buds, buds and cuts on the bark. It is used by bees to keep the hive free of diseases and to close the cracks and the entrance of the nest. Currently, propolis is used mainly by the beauty and medicine industries because it has healing effects and it is considered a natural antibiotic. The study evaluated the antimicrobial activity of two samples of *in natura* honey produced by *Apis mellifera* (M.1RE e M.2IE) and two by *Tetragonisca angustula* (M.2IJ e M.3DJ), as well as four samples of industrialized propolis, P.P.S/A and P.B.S/A (aqueous); P.V and P.Z. (alcoholic). The filter paper disks for antibiogram, with 6 mm diameter, were impregnated individually with honey and propolis samples and they were placed in Petri dishes with appropriate culture medium previously inoculated with the following microorganisms: *Bacillus cereus*, *Bacillus subtilis*, *Escherichia coli*, *Salmonella* Typhimurium, *Salmonella* Enteritidis and *Staphylococcus aureus*, followed by incubation at 35 °C/24-48 hours. The antimicrobial action was considered effective for those honey or propolis that presented halos equal to or greater than 10 mm. The honey samples had efficient results against all microorganisms tested, except *S. aureus*. The best result was verified for the sample M.2IE against *S. Enteritidis*, which showed an inhibition halo of 18 mm. *S. aureus* was effectively inhibited by the samples P.P.S/A and P.B.S/A, both showing a 30 mm halo. The best results were observed for the propolis aqueous samples, P.P.S/A and P.B.S/A, which efficiently inhibited all tested bacteria, especially *S. aureus*.

Keywords: antimicrobial activity, honey, propolis, *Tetragonisca angustula*, *Apis mellifera*.