

## SUMMARY

In the present work the incidence of bacterial contamination in honey samples taken from different localities was studied by spreading dilutions of honey samples on cooked meat medium plates and LB-agar plates in aerobic and anaerobic conditions. The honey samples were obtained from honey bee species, *Apis mellifera* (European bee). The nectar source of all samples was bairy (Cider) except for one sample from Punjab University which was of sunflower nectar source. Both aerobic and anaerobic bacteria were isolated. The aerobic bacteria were identified as *Bacillus circulans*, *B. coagulans*, *Nocardia* sp., *B. brevis*, *B. alvei* and *B. subtilis*. The anaerobic bacteria were identified as *Clostridium* sp., *Lactobacillus* sp. and *Bifidobacterium* sp.

The honey samples from Khor Par had 41 colony forming units (CFUs) of aerobic bacteria such as *B. subtilis*, *B. circulans*, *B. coagulans* and *Nocardia* sp., whereas sample from Chunian had 90 CFUs of aerobic bacteria which are *B. subtilis*, *B. circulans*, *B. brevis* and *Nocardia* sp. and 2 of anaerobes, *Clostridium* sp. were identified. From honey sample originating from Sunflower nectar source 25 CFUs of aerobic bacteria which are *B. subtilis*, *B. circulans* and *Nocardia* sp. and one anaerobic CFU (*Lactobacillus* sp.) were identified. Honey sample from NARC, Islamabad showed 15 CFUs of aerobic bacteria, *B. subtilis* and *B. brevis* and 3 anaerobic CFUs, *Lactobacillus* sp. and *Bifidobacterium* sp. Eleven aerobic (*B. subtilis*, *B. brevis* and *B. alvei*) and 4 anaerobic CFUs including *Clostridium* sp. and *Lactobacillus* sp. were obtained from another honey sample obtained from NARC, Islamabad. Honey sample from Chunian was found to be most the contaminated sample followed by Khor Par and NARC samples.

There was no pathogenic bacterial strain isolated from honey samples. The presence of bacteria in honey is basically not natural but this is the contamination of honey which is done during process of formation of honey by honey bee and then by improper handling of honey. It was found that none of honey samples was health hazardous.