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Assessment of bacterial resistance in raw chicken in Lebanon and use of essential oil of native *Origanum* species as alternatives**Chantal Abou Jaoudeh, N Arnold-Apostolides and L Hanna-Wakim**
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The prophylactic use of antibiotics as growth promoters in diets for broilers has generated an intensive poultry production and improved feed conversion in the animals. However, resistant bacteria in chicken survive and grow at low doses of antibiotics and may cause an antibiotic-resistant generation. Therefore, researchers are investigating natural alternatives to antibiotics to improve poultry production, such as *Origanum*'s essential oil. To assess the potential effect of native plant species as alternatives, we extracted the essential oils of *Origanum syriacum* L. and *O. ehrenbergii* Boiss. by hydrodistillation using Clevenger apparatus and the chemical composition of both species was determined by GC-MS analysis. The antimicrobial activity of serial dilutions of the oils and thirteen (13) antibiotics was *in vitro* tested against detected microorganisms isolates (*E. coli*) by growth inhibition and determination of minimal inhibitory concentration (MIC) and minimal bactericidal concentration (MBC). The yields of essential oils reached 8.5% for *O. syriacum* and 2.4% for *O. ehrenbergii*. The major compounds identified in both plants were Carvacrol and Thymol. Both essential oils tested showed a very promising potential in inhibiting the growth of tested bacteria comparing to the antibiotics used. These results clearly demonstrate the high and economic potential of using these plants as natural and safe additives to promote food safety and limit the resistance arising from the misuse of antibiotics. Further investigation on the sanitation and hygiene systems applied on the food flow of Lebanese poultry is necessary.

Biography

My name is Chantal Abou Jaoudeh, I am a PhD student in food sciences and technology at the Holy spirit university-Kaslik, Lebanon, this is my third year. I've got my Bachelor in Biology (Human physiology option) in 2004 at the Lebanese university, and in 2006 I've got my Master in Quality control and management (application to the food safety) from agroparitech university. Currently, I work as an engineer of conformity mark and auditor at LIBNOR, since March 2017.

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