

عنوان مقاله:

Short Communication: Antibacterial activity of oregano (*Origanum vulgare*) essential oil, carvacrol and thymol against (fish pathogenic bacteria isolated from cultured olive flounder (*Paralichthys olivaceus*)

محل انتشار:

مجله علوم شیلات ایران، دوره 20، شماره 6 (سال: 1400)

تعداد صفحات اصل مقاله: 13

نویسندگان:

Pathirana H.N.K.S. - *Chungbuk National University*

Wimalasena S.H.M.P. - *Chungbuk National University*

De Silva B.C.J. - *Chungbuk National University*

Hossain S. - *Chungbuk National University*

Heo G.J. - *Chungbuk National University*

خلاصه مقاله:

The antibacterial activity of oregano (*Origanum vulgare*) essential oil (OEO), carvacrol and thymol was tested against seven Gram-negative and nine Gram-positive fish pathogenic bacteria isolated from cultured olive flounder (*Paralichthys olivaceus*) in Korea. Disk diffusion assay, MIC (minimum inhibitory concentration) and MBC (minimum bactericidal concentration) tests showed OEO, carvacrol and thymol inhibiting the growth of both Gram-negative and Gram-positive bacteria. Carvacrol and thymol showed lower MIC values than OEO against every isolate which ranged from 0.001 to 0.007 % (V/V) and 0.001 to 0.062 % (V/V), respectively. Carvacrol (MBC/MIC= 1-4) and thymol (MBC/MIC= 2-4) were bactericidal for all tested strains while OEO (MBC/MIC= 2-8) was being both bactericidal and bacteriostatic.

In every fish pathogenic bacteria, the inhibition zone diameter (IZD) increased in proportion to the oil concentration and the maximum effect was found at 100 % (V/V) concentration of OEO, carvacrol and thymol. The antibiogram pattern indicated that all the bacterial strains excluding three strains of *S. iniae* (S186, S530, and S131) showed resistance to one or more antibiotics. The percentage of relative inhibition zone diameter (RIZD %) exhibited high values at higher concentration of all agents. Since antibacterial activities of OEO, carvacrol and thymol were considerably effective against fish pathogenic bacteria, their use could be alternatives to treat bacterial infections in aquaculture.

کلمات کلیدی:

Antibacterial activity, Oregano essential oil (OEO), Carvacrol, Thymol, Fish pathogenic bacteria, Olive flounder

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1396459>



