عنوان مقاله:

Short Communication: Inhibitory effects of the Iranian propolis ethanolic extract on different life stages of two Saprolegnia parasitica isolates recovered from rainbow trout (Oncorhynchus mykiss) eggs

محل انتشار:

مجله علوم شیلات ایران, دوره 22, شماره 6 (سال: 1402)

تعداد صفحات اصل مقاله: 13

نویسندگان:

S. Mirmazloomi - *Department of Aquatic Animal Health, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran*

M. Ghiasi - *Caspian Sea Ecology Research Center, Iranian Fisheries Research Organization, Agriculture Research Education and Extension Organization, Mazandaran, Iran.*

A.R. Khosravi - *Mycology Research Center, Faculty of Veterinary Medicine, University of Tehran, Tehran, Iran.*

خلاصه مقاله:

The present study investigated the potential anti-Omycetes activity of the ethanolic extract of Iranian propolis on two Saprolegnia parasitica isolates (KMG۲ and KMG۳) obtained from infected rainbow trout eggs in Iran. The initial minimum inhibitory concentration (MIC) of propolis extract was determined by the hemp (Cannabis sativa L.) seed MicroPlate (HeMP) method. Then, the effect of propolis extract on hyphal radial growth and cyst germination was assessed by an agar dilution method and ۴۸-well tissue culture plates, respectively. Also, the impact of propolis on the sporulation activity of Saprolegnia sporangia was evaluated by using Saprolegnia-colonized hemp seed in sterile distilled water (SDW). The HeMP method showed that propolis had some anti-oomycete activity on S. parasitica with a MIC value of ۱۰۰۰ ppm. According to the agar dilution method, complete inhibition of hyphal growth was achieved at ۲۵۰ ppm for KMG۲ and ۵۰۰ ppm for KMG۳. Cyst germination and sporulation activity were ultimately arrested at ۲۰۰ and ۸۰۰ ppm, respectively. In conclusion, the propolis extract can be explored as an anti-oomycete substance for treating saprolegniasis in aquaculture. However, an in vivo study is required to assess the safety and efficacy of propolis before application in aquatic animal medicine.

کلمات کلیدی:

Saprolegnia parasitica, Propolis, Anti-oomycete activity, Rainbow trout