

紫外线辐射对西伯利亚鲟精子活力和寿命的影响

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Impacts of ultraviolet irradiation on the sperm motility and longevity of *Acipenser baerii*.ZHANG Tao¹, YAN Shi-wei^{1,2}, ZHANG Long-zhen¹, ZHUANG Ping^{1,2}, TIAN Mei-ping³, YAN Wen-gang¹, JIANG Qi⁴, YAO Zhi-feng³

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摘要 研究了不同剂量紫外线辐射(254 nm, UVC)对西伯利亚鲟精子活力和寿命的影响。结果表明:紫外线辐射对精子的活力、快速运动时间和寿命均具有显著性影响。其中,精子活力随辐射剂量的增加而呈先迅速下降,后迅速上升,再迅速下降的趋势;精子快速运动时间的变化趋势与活力相似;精子寿命随辐射剂量的增加呈缓慢下降的趋势。当辐射剂量达 $288 \text{ mJ} \cdot \text{cm}^{-2}$ 时,精子无快速运动,当辐射剂量达 $324 \text{ mJ} \cdot \text{cm}^{-2}$ 时,精子活力和寿命均降为0。根据Hertwig效应判断,辐射剂量 $216 \text{ mJ} \cdot \text{cm}^{-2}$ 为西伯利亚鲟精子灭活的最适剂量。

关键词: 西伯利亚鲟 精子 紫外线辐射 活力 寿命

Abstract: This paper studied the impacts of different dose ultraviolet irradiation (254 nm, UVC) on the sperm motility and longevity of *Acipenser baerii*. Ultraviolet irradiation had significant impacts on the sperm motility, its fast motion

time, and longevity. With the increasing dose of ultraviolet irradiation, the sperm motility decreased rapidly first, increased rapidly then, and decreased rapidly again. The sperm fast motion time had the similar variation trend as the sperm motility, but the sperm longevity kept decreasing with increasing dose of ultraviolet irradiation. When the ultraviolet irradiation dose increased to $288 \text{ mJ} \cdot \text{cm}^{-2}$, the sperm fast motion disappeared; when the ultraviolet irradiation dose increased up to $324 \text{ mJ} \cdot \text{cm}^{-2}$, the sperm had no motility and died. According to the "Hertwig effect", the optimum ultraviolet irradiation dose for inactivating *A. baerii* sperm was $216 \text{ mJ} \cdot \text{cm}^{-2}$.

Key words: *Acipenser baerii* sperm ultraviolet irradiation motility longevity

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- [1] 齐曼·尤努斯, 木合塔尔·扎热, 塔衣尔·艾合买提. 干旱胁迫下尖果沙枣幼苗的根系活力和光合特性[J]. 应用生态学报, 2011, 22(07): 1789-1795.