

研究论文

三种淡水藻类对萼花臂尾轮虫培养效果的比较

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摘要 在28℃下, 采用群体累积培养法, 探讨了不同浓度的蛋白核小球藻 (*Chlorella pyrenoidosa*)、水华鱼腥藻 (*Anabaena flos-aquae*) 和沙角衣藻 (*Chlamydomonas sajabo*), 以及在等生物量条件下, 以上3种藻类两两配比饵料 (3: 1、1: 1和1: 3) 对萼花臂尾轮虫 (*Brachionus calyciflorus*) 的培养效果。结果表明, 不同浓度的蛋白核小球藻、水华鱼腥藻和沙角衣藻对萼花臂尾轮虫增殖效果的影响分别表现为差异极显著 ($p<0.01$)、显著 ($p<0.05$) 和不显著 ($p>0.05$); 蛋白核小球藻与水华鱼腥藻组成的混合饵料对萼花臂尾轮虫的增殖效果均优于其中的单一种类 ($p<0.05$); 沙角衣藻无论是单独投喂, 还是与其它藻类混合投喂, 轮虫的培养效果均不理想。因此, 该种类不宜用作轮虫饵料开发。该研究还表明, 蛋白核小球藻是培养萼花臂尾轮虫的最适单一种类, 它与水华鱼腥藻组成的混合饵料培养萼花臂尾轮虫效果更好。

关键词 萼花臂尾轮虫; 饵料浓度; 增殖效果; 蛋白核小球藻; 水华鱼腥藻; 沙角衣藻

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A comparative study on effects of three freshwater algae species on rotifer *Brachionus calyciflorus* cultivation

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Abstract The paper constitutes a study on the effect of algae on population dynamic of rotifer *s* (*Brachionus calyciflorus*) at the temperature of $(28\pm 1)^\circ\text{C}$, under the intensity of illumination 200~250lx, illumination period L: D=12: 12, and the same biomass of algae. Rotifers are cultured by feeding on *Chlorella pyrenoidosa*(C.p), *Anabaena flos-aquae*(A.f), *Chlamydomonas sajabo* (C.s) and mixtures(wet weight) of them at proportion 3: 1, 1: 1 and 1: 3 using population accumulative culturing method. The results show the difference in population density of rotifers feeding on C.p, A.f and C.s under different concentrations is very significant ($p<0.01$), significant ($p<0.05$) and not significant ($p>0.05$) respectively. Moreover, the cultivation effect of rotifers feeding on the mixture of C.p and A.f under 3 proportions is superior to ($p<0.05$) that of any corresponding alga. Whenever rotifers are fed on single C.s or its mixture, the cultivation effect is inferior without exception. Therefore, C.s is not suitable for developing food for rotifers. The study also indicates that C.p is the best for the growth of the rotifer among the three algae species, and the mixture of C.p and A.f is more suitable for cultivating rotifers than single C.p, which can offer reference for developing food of rotifers.

Key words [_ Brachionus calyciflorus _ food concentration _ cultivation effect _ Chlorella pyrenoidosa _ Anabaena flos-aquae _ Chlamydomonas sajabo](#)

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