

## 黄瓜种子发芽期微生物代谢的群落特性研究

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### Studies on microbial community characteristic at germination stage of cucumber seeds

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**摘要** 用BIOLOG.GN板方法研究了4个黄瓜品种,在发芽12h、36h、72h时种子周围的微生物群落结构和功能多样性。结果表明,在微生物的碳代谢特征上,不同黄瓜品种在发芽12h、36h、72h时有显著差别,同一品种不同处理之间也有差异。在碳代谢类型上,糖类利用程度最高(OD>1.4),氨基酸类利用程度最低(OD<0.8),有机酸的利用居中;黄瓜种子发芽期间,微生物在碳源代谢方面优势群落的演变特点是:氨基酸类代谢群→有机酸类代谢群→糖类代谢群,且最终以代谢糖类的微生物为优势种群。

**关键词:** BIOLOG 碳代谢 黄瓜种子 微生物群落 BIOLOG 碳代谢 黄瓜种子 微生物群落

**Abstract:** Using BIOLOG method, the microbial community and functional diversity around circumference of cucumber seeds of four different cucumber species were studied during different germinating phases of 12h, 36h, and 72h. Seed were cultured in pots which were placed in light-emitted feeding box. The microorganisms around circumference of (cucumber) seeds were cultured in GN plate with 96 small rooms and the OD value was determined at different culture time. The results showed that characteristics of carbon metabolism were various among different cucumber species with the germinating time of 12h and 36h, so were the different treatments on the same species. Regarding the C metabolic forms, the utilization rate of saccharide was the highest (OD>1.4), while the utilization rate of amino-acid was the lowest (OD<0.8), and the organic acid was intermediate. During the time of seed germination, the evolvement characters of dominant microbial community in term of C source metabolism were: amino acid community → organic acid community → sugar metabolism community, which was the dormant one ultimately.

**Keywords:**

#### 引用本文:

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