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高压脉冲电场对普洱茶中微生物的选择性灭活

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The selective inactivation of microorganism in Puer tea in high pulsed electric field

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- 摘要
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全文: PDF (853 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 选用了云南主要产茶区具有一定代表的8种普洱熟茶作为样品,检测其中的霉菌、细菌总数及细菌代谢产生的蛋白酶.检测表明,8种茶样中存在大量的霉菌,包括优势菌群黑曲霉,茶样中的细菌总数均超标并且茶叶中存在非致病性但影响茶叶品质的枯草芽孢杆菌.选用3组高压脉冲电场对上述8种茶样进行处理,结果表明高压脉冲电场对细菌及蛋白酶有高效的杀菌钝酶作用,但对霉菌及黑曲霉没有影响.试验结果与高压脉冲电场的电穿孔理论一致,验证了高压脉冲电场促进生物体生命活性的正效应和抑制其生命活性的副效应两方面的相关理论.

关键词： 高压脉冲电场 普洱茶 细菌总数 蛋白酶 霉菌

Abstract： In this paper,8 types of typical fermented Puer tea which are from Yunnan main tea-producing areas were chosen as samples.We have detected the mold,the total number of bacteria and protease produced by bacterial metabolism in the samples.The results showed that there are a lot of molds in these 8 types of samples,including dominant microorganisms *Asperigillus niger*.The total number of bacteria in these samples exceed the standard and the non-pathogenic *Bacillus subtilis* which can affect the quality of tea were identified in these teas.We selected 3 group of HPEF (high-voltage pulsed electric field) to treat these 8 types of Puer teas,the experiments have shown that despite HPEF have high effective sterilization on other microorganism and can effectively reduce the activities of protease,it has no effect on mold and *Aspergillus niger*.The result of experiments were consistent with the theory of electroporation of HPEF,and also verified that HPEF has positive effect to promote activity of living organism and negative effect to reduce the activities of microorganisms respectively.

Key words:

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