

研究论文

利用RVA快速鉴定稻米蒸煮及食味品质的研究

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收稿日期 2003-3-13 修回日期 2003-10-26 网络版发布日期 接受日期

摘要 71份粳稻和68份籼稻RVA特征值与直链淀粉含量(AC)、胶稠度(GC)的相关分析表明,RVA谱特征值与AC、GC均有较高相关系数,其中最高粘度(PKV)、崩解值(BDV)与AC的相关系数分别达-0.760和-0.736,呈极显著负相关,与GC相关系数分别为0.740和0.715,呈极显著正相关。但通过分析AC、GC和RVA谱6个参数的三维曲面图,揭示出BDV、PKV特别是BDV与GC的关系最密切,接近直线相关,用BDV进行GC间接鉴定是可靠的,且快速有效。进一步用分段线性回归分析建立定量模型,说明利用RVA可以定量分析稻米蒸煮及食味品质,特别是AC和GC与RVA特征值相关系数分别高达0.919和0.905,RVA预测值与分析值十分接近。

关键词 [蒸煮及食味品质](#) [RVA特征值](#) [评价](#)

分类号 [S511](#)

Rapid Evaluation of Rice Cooking and Palatability Quality by RVA Profile

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Abstract The correlation coefficient was higher between amylose content (AC), gel consistency (GC) and parameter of RVA profiles, AC was significantly negative-correlated to peak viscosity (PKV) and breakdown viscosity (BDV) of RVA profiles, with the correlation coefficients of -0.760, and -0.736 respectively at P=0.01 level; GC significantly positive correlated to PKV and BDV of RVA profiles, with the correlation coefficients of 0.740 and 0.715 at P=0.01 level. The 3D figure (AC, GC and RVA profiles) showed most close relationship between GC and BDV, PKV, especially between GC and BDV. Therefore it might be rapid and efficient to test GC by BDV of RVA profiles. Furthermore, the analysis of the relationship between cooking and palatability quality characters and RVA profiles by Piecewise liner regression with breakpoint method could make models for quantitative analyses of AC and GC by RVA profile, the correlation coefficient of AC and GC to RVA profiles reached 0.919 and 0.915, respectively at P=0.01 level.

Key words [Rice](#) [Cooking and palatability quality](#) [RVA profile](#) [Evaluation](#)

DOI:

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