

农学—研究报告

木薯不同生育时期内源激素含量变化研究

罗兴录<sup>1</sup>, 樊吴静<sup>2</sup>, 王军<sup>2</sup>

- 1. 广西大学
- 2. 广西大学农学院

摘要:

为探讨木薯块根淀粉含量不同的品种不同生育时期内源激素的变化, 以‘华南124’和‘辐选01’2个块根淀粉含量不同的木薯品种为材料, 分别对其不同生长发育时期的块根、茎秆及叶片中内源吲哚乙酸(IAA)、赤霉素(GA3)、玉米素(ZR)、脱落酸(ABA)的含量变化进行了研究。结果表明: 2个木薯品种块根、茎秆及叶片中IAA、GA3和ZR 3种激素的含量变化趋势基本一致, 在块根中这3种激素均呈先上升后下降的变化趋势, 茎秆中这3种激素的含量均呈先下降后上升的变化趋势, 叶片中这3种激素的含量均为逐渐下降的变化趋势; 而ABA含量的变化不同于IAA、GA3和ZR, 其在整个生育期间呈不断上升的变化趋势。不同品种内源激素含量变化不同, 块根IAA含量生育前中期, ‘辐选01’高于‘华南124’, 后期两者差异不大。块根GA3含量生育前期, 2个品上差不大, 中后期‘华南124’高于‘辐选01’。块根ZR含量前期两个品种相差不大, 中期‘辐选01’高于‘华南124’, 后期‘华南124’高于‘辐选01’; 块根ABA含量整个生育期‘华南124’高于‘辐选01’, 但叶片ABA含量则相反, ‘辐选01’高于‘华南124’。木薯不同生育时期块根、茎秆及叶片的内源激素IAA、GA3、ZR、ABA含量变化不同, 块根淀粉含量不同的品种内源激素含量变化也不同。

关键词: 内源激素

Studies on the Changes of Endogenous Hormones in Cassava During Growing Development

LUO Xing-LU<sup>2, 2</sup>

Abstract:

The IAA, GA3, ZR and ABA contents in the root, stem and leaves of cassava varieties ‘SC124’ and ‘Fuxuan01’ were studied. The results showed that the varying tendencies of IAA, GA3 and ZR in the root, stem and leaves were similar between ‘SC124’ and ‘Fuxuan01’. The contents of IAA, GA3 and ZR increased firstly and then decreased in the root; in the stem, the contents of IAA, GA3 and ZR firstly decreased and then increased, and the content of IAA, GA3 and ZR decreased gradually in the leaves. The content of ABA was different to IAA, GA3 and ZR, it increased gradually in the whole growing period. The changes of endogenous hormone content were different in different varieties. The contents of IAA in tuberous roots of ‘Fuxuan01’ were higher than those of ‘SC124’, but there was no significant difference in the latter. There was no significant difference of the contents of GA3 in early growth stage between ‘Fuxuan01’ and ‘SC124’, but the contents of GA3 of ‘SC124’ were higher than those of ‘Fuxuan01’ in middle and late growth stage. There was no significant difference of the contents of ZR in early growth stage between ‘Fuxuan01’ and ‘SC124’, but the contents of GA3 of ‘Fuxuan01’ were higher than those of ‘SC124’ in middle growth stage, and ‘SC124’ was higher than ‘Fuxuan01’ in late growth stage. The contents of ABA in tuberous roots of ‘SC124’ were higher than those of ‘Fuxuan01’ in all growth stage, but on the contrary in leaves. The endogenous hormone contents in tuberous roots, stems and leaves were different in different growth stage. The endogenous hormone IAA, GA3, ZR, ABA contents were different in starch content different varieties.

Keywords: endogenous hormones

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