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摘要: 播期早晚直接影响菜用大豆的产量和品质。在大田条件下于2010年以中科毛豆1号为材料，分4个播期（5月3日、5月15日、5月27日和6月8日）进行预试验，2011年则种植可溶性糖含量不同的3个菜用大豆品种（系）进行重复试验，分析了播期对鲜食期菜用大豆籽粒蔗糖磷酸合成酶（SPS）、蔗糖合成酶（SS）、酸性转化酶（AI） 和中性转化酶（NI）活力的影响。结果表明：不同基因型菜用大豆鲜食期籽粒中SPS、SS活力对不同播期处理的响应相似，均随着播期的推迟显著降低，5月3日播期比推迟的播期的SPS活力高出10.8%~27.7%，而SS活力高出4.8%~17.4%。AI活力对播期响应不明显，而NI活力也有所下降，但下降幅度较低。晚播导致蔗糖磷酸合成酶、蔗糖合成酶、中性转化酶和酸性转化酶活性平衡的改变，可能是导致菜用大豆籽粒蔗糖含量下降的内在原因。

Abstract: Planting dates influence fresh pod yield and quality in vegetable soybean. Preliminary test was conducted in 2010 which vegetable soybean CAS 1 was grown at 4 planting dates (May 3, May 15, May 27 and Jun 8) in field condition. And then three vegetable soybean cultivars with different soluble sugar contents were grown at 4 planting dates in field condition in 2011. The activities of sucrose phosphate synthase (SPS), sucrose phosphate synthase (SPS), acid invertase (AI) and neutral invertase (NI) from fresh green seeds harvested at the R6 stage were analyzed. Similar responses of SPS and SS activities in different cultivars were observed to planting dates. With the delayed planting, the activities of the two enzymes were significantly reduced. The SPS activities in the early planting date of May 3 were 10.8%-27.7% greater than late plantings, while the SS activities were 4.8%-17.4% greater. The change of AI activities by delayed planting was not obvious. NI activities were also reduced by delayed planting but with less extent. The alteration in the balance of SPS, SS, AI and NI by delayed planting might be the inherent physiological mechanism responsible for the reduction of sucrose accumulation in vegetable soybean

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