

施氮量对机插杂交粳稻徐优403产量品质的影响

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Effects of nitrogen application rate on yield and grain quality of mechanical-transplanted hybrid Japonica rice Xuyou403

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摘要 软盘早育机插条件下, 以杂交中粳徐优403为材料, 研究了里下河地区稻麦两熟制不同施氮量对机插杂交稻徐优403产量和品质的影响。结果表明, 随施氮量的增加, 机插杂交稻徐优403的穗数和每穗颖花数和产量呈先增后减趋势, 以N 225 kg/hm²处理最高; 结实率和千粒重表现为随施氮量增加而减小。施氮量主要影响稻米品质中的垩白度和垩白率, 其次为消减值, 而对其它品质指标影响较小。品质性状中的加工碾磨品质、稻米的表面积、横面积可与产量在一定程度上实现高产优质统一; 而其它品质指标则表现为对施氮存在负响应。综合来看, 机插杂交稻徐优403适宜施氮量以施 N 225 kg/hm²为宜。

关键词: 机插杂交粳稻 施氮量 产量 品质 RVA谱 机插杂交粳稻 施氮量 产量 品质 RVA谱

Abstract: Effects of the different nitrogen application rates on yield and quality of mechanical-transplanted hybrid rice were studied under the yearly rice-wheat crop system in the Lixia River area. The cultivar is Xuyou403, a mid-season hybrid japonica rice cultivar. With the increase of nitrogen application rate, the harvested panicles per plant, number of grains per panicle, and the grain yield are increased first and then decreased; the 225 kg/ha nitrogen application rate is rate for the highest production. The grain filling rate and 1000-grain weight appear to be decreased along with the increase of nitrogen application rate. The nitrogen application rate mainly affected the chalkiness degree and the chalkiness rate, then setback, the other rice qualities were less effected. The milled rice qualities, the surface area, and section area are at their best values at the 225 kg/ha nitrogen application rate, the same as the grain yield, while the other grain qualities trended to be bad with the increase of nitrogen application. Considering the grain yield and quality together, the 225kg/ha of nitrogen fertilizer rate is suitable for rice production.

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