

水稻温敏不育系育性鉴定及繁种水温处理系统的设计和应用

Evaluation of sterile of appraisal-sensitive genie male-sterile in paddy and study on water temperature procession system for breeding

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英文关键词: paddy; dual-purpose genie sterile line; water; temperature; procession system

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作者	单位
汤楚宙	湖南农业大学, 长沙 410128
陈立云	湖南农业大学, 长沙 410128
吴明亮	湖南农业大学, 长沙 410128
向阳	湖南农业大学, 长沙 410128
张桂花	湖南农业大学, 长沙 410128

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中文摘要:

水稻温敏不育系育性感期处于某种温度条件下表现雄性不育, 与父本可配制杂交种; 处于另一温度条件下则可育, 能自交繁殖种子。使不育过渡到可育的育性转换温度决定着两系法杂交稻制种风险的大小。因此, 确定水稻温敏不育系的育性转换温度, 筛选导致不育起点温度低的温敏不育系已成为水稻两系法育种的技术关键。本研究的处理系统利用空调机制冷、加热, 温控仪自动控温, 水温在17~30℃之间可调。水温控制池与植株处理池中的水不断循环, 从而达到植株处理池中的水温长期稳定, 保持在研究所需要的范围内, 完全能满足温敏不育系育性鉴定与繁种的要求

英文摘要:

The sterile sensitive phase of the Appraisal-sensitive Genie Male-sterile in paddy shows sterile and it can breed hybridized seed with male parent when they stay in a certain temperature. However, in another temperature conditions, they show male sterile and they breed seed with themselves. The conversion temperature that from sterile to male sterile decide the two-line hybrid rice breed seed hazard, so the technology crux of breed seed is how to decide the conversion temperature and screens the photoperiod-sensitive genie male-sterile rice that leads to the temperature lower. In this paper, we use the air conditioner to cooling and heating. The temperature is automatic-controlled from 17℃ to 30℃ by temperature-controll instrument. The water in temperature controlled pool and the procession pool is continuous circulation in order to ensure the water temperature constant and stay in necessary range and meet with the evaluation the male-sterile of photoperiod-sensitive genie male-sterile rice and fast the breeding seed. It provides an economical and adaptation equipment for breeding hybridized seeds, and contracts with man-climate, it has quite less cost, the characterical is fairly static. and can quite good simulate the natural circumastion. Especially using the cool water in breeding seed. The real application proves that the systematic performance is reliable, less investment and consumer and the result is very good.

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服务热线: 010-65929451 传真: 010-65929451 邮编: 100026 Email: tcsae@tcsae.org

