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研究论文

水稻分蘖芽的环境敏感期研究

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摘要 本文以早籼稻、晚粳稻、籼型杂交稻等5个具有不同分蘖力的水稻品种为材料，研究了水稻分蘖芽分化发育过程中对外界环境的敏感期。结果表明：水稻分蘖芽从分蘖原基形成起，经过一幼一基、二幼一基、三幼一基、四幼一基期后、其第一叶就超过前出叶。然后伸出母茎叶鞘，长成正常分蘖。在这个过程中，三幼一基向四幼一基发展的转折时期是水稻分蘖芽对外界环境反应最敏感的时期，即环境敏感期。采取深灌水等控制措施，就能使外在环境敏感期的分蘖芽停止生长，达到控制分蘖的目的。水稻分蘖芽的分化发育过程与母茎叶片同步生长。根据主茎叶龄就能判断处于敏感期的分蘖芽所着生的节位，可用以作为准确控制分蘖的诊断指标。

关键词 水稻,分蘖节,环境敏感期

分类号

Studies on the Sensitive Stage to Environment during Differentiation and Development of Tiller Buds in Rice Plant

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Abstract Five rice varieties (3 indica rices, a japonica rice, and a hybrid rice) were used as the material in the experiment. The sensitive stage to environmental conditions was studied during differentiation and development of tiller buds in rice plant. The results showed: After the tiller primordium was formed, a tiller bud differentiated firstly into a tiller bud which have a young leaf and a leaf primordium (1), followed by 2 young leaves and a leaf primordium (2), 3 young leaves and a leaf primordium (3), 4young leaves and a leaf primordium (4), then the first leaf exceeded prophy11 (5), finally extended out the sheath of mother stem (6) and became a tiller. In the process, the turning stage from III to IV was the most sensitive to environment, i.e.Environment Sensitive Stage (ESS). When some treatments, such as deep water irrigation, were given to the plants in this time, the growth of the tiller buds which was at ESS would be inhibited, and the tiller would be controlled. Because a tiller develops synchronously with the development of a definite leaf of the main stem, the nodal position of the tiller bud that was at ESS might be determined according to the plant age. This rule could be used as a diagnosing index to control ineffective tiller in rice plant.

Key words Rice Tiller bud Environment sensitive stage

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