

雄性核不育水稻育性转换的光周期效应指数值(PE)和温度效应指数值(TE)的遗传性初步研究

薛光行, 邓景扬

中国农业科学院作物栽培研究所;北京 100081

收稿日期 修回日期 网络版发布日期 接受日期

摘要 对比考察了农垦58s与7001s、802s与培矮64s及8902s与安农S-1等3个光(温)敏核不育水稻杂交组合的双亲、F₁、B₁、B₂和F₂世代的样本及每一个体的PE和TE的变异。无论双亲核不育基因的等位程度及栽培环境的光、温周期如何,在多数情况下都显示了如下的规律:(1)后代样本PE、TE的大小虽然形形色色,但都取决于其双亲。F₁表示完全显性甚至超显性。(2)F₂个体的PE或TE、尤其同一个体PE与TE的集成类型发生有规律的分离和超亲分离,产生形形色色的育性转换类型。在纯粹由雄性不育个体组成的F₂不育分样本中也发生同样分离。(3)PE或TE的广义遗传力的估值都大于50%。据此推断PE、TE是两个可遗传并可供选择的独立性状,并对育性转换现象的遗传机制也进行了讨论。

关键词 [水稻](#) [雄性核不育](#) [光周期效应](#) [温度效应](#) [遗传](#)

分类号

Preliminary Studies on Heredity of the PE and the TE Causing Conversions of Plant Fertility in Some Genic Male Sterile Rice

XUE Guang-xing; DENG Jing-yang

Institute of Crop Breeding and Cultivation CAAS Beijing 100081

Abstract

A comparative investigation on the Pe (value of photoperiodic effect index) and the TE (value temperature effect index) of each plant or on that of each sample of parents, F₁, B₁, B₂ and F₂ generations of samples and each individual PE and TE variation. No matter the allelic degree of the parent nuclear male sterility genes and the photoperiod and temperature cycle of the growing environment, in most cases the following regularities were observed: (1) The PE and TE of the progeny samples are both dissimilar, but depend to a large extent on that of their parents. A complete dominance even an overdominance thrown out in the F₁ generation, (2) Segregation and transgressive segregation (positive or / and negative) with a great many of unlike type were observed respectively on the PE or the TE of single plant and particularity on its PE-TE coupling in these F₂ populations. A similar segregation exists also in the groups of male sterile plants isolated. A similar segregation exists also in the groups of male steile plants isolated from their F₂ population (3) Estimated of broad sense heritability for both, the PE and the TE, were over 50%. Based on these grounds, it is concluded that the PE and the TE are two independently heritable traits, and can be selected. A dicussion about the genetic mechanism of phenomenon of fertility conversion was made as well.

Key words [Rice Male sterility](#) [Value of photoperiodic effect index \(PE\)](#) [Volue of temperature effecindex \(TE\)](#) . [Inheritance](#)

DOI:

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(619KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中 包含“水稻”的 相关文章](#)
- ▶ 本文作者相关文章
- [薛光行](#)
- [邓景扬](#)

