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云南传统水稻品种对白背飞虱的抗性筛选

Resistance screening of Yunnan traditional rice varieties to the white backed planthopper, *Sogatella furcifera*

DOI:

中文关键词:

英文关键词: [rice](#) [Sogatella furcifera](#) [resistance screening](#) [honeydew area](#) [oviposition](#)

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中文摘要:

[目的] 初步筛选云南传统水稻品种对白背飞虱的抗、感性差异, 为进一步研究白背飞虱的抗虫水稻种质资源奠定基础。[方法] 在实验室条件下分析比较了13个来自云南元阳的地方水稻品种抗白背飞虱等级, 不同品种对白背飞虱若虫生长发育的影响以及白背飞虱在各个品种上的取食量和产卵差异。[结果] 在13个传统品种中, ‘红皮糯谷’、‘绿脚谷’和‘车甲谷’无论在苗期还是分蘖期对白背飞虱的抗性等级均较一致。上述品种中, 白背飞虱在‘红皮糯谷’、‘绿脚谷’和感虫对照‘TN1’上24 h的蜜露斑面积测定结果均 $>45 \text{ mm}^2$, 单雌产卵量超过90粒, 孵化率高于80%; 而在‘车甲谷’和抗虫对照‘RHT’上24 h的蜜露斑面积测定结果均 $<20 \text{ mm}^2$, 单雌产卵量均低于60粒, 孵化率不足57%。白背飞虱若虫的发育历期在各供试品种之间的差异不明显。[结论] 白背飞虱在‘红皮糯谷’和‘绿脚谷’上的取食量、单雌产卵量和孵化率均较高, 可以初步确定为感虫品种; 而在‘车甲谷’上的取食量、单雌产卵量和孵化率均较低, 初步确定属于抗虫品种。

英文摘要:

[Objective] The resistance levels of thirteen Yuanyang conventional rice varieties to white backed planthopper, *Sogatella furcifera*, were screened, and the results may provide a basis for further study of *S. furcifera* resistant germplasm resources. [Methods] Resistance levels of the *S. furcifera* varieties tested were evaluated using the methods of bulk seedling, single seedling and single plant (tillering stage) screening tests in the laboratory. The development of nymph, honeydew areas and fecundity were evaluated as well. [Results] The results indicated that the resistance levels were similar among the varieties ‘Hongpinuo Gu’, ‘Lujiao Gu’ and ‘Chejia Gu’ at seedling and tillering stages. The honeydew areas of *S. furcifera* in the varieties ‘Hongpinuo Gu’, ‘Lujiao Gu’ and ‘TN1’ (sensitive control) were larger than 45 mm^2 ; the egg numbers oviposited per female adults were more than 90, and the percentage of nymphal hatching was higher than 80%. While the honeydew area of *S. furcifera* in the varieties ‘Chejia Gu’ and ‘RHT’ (resistant control) were smaller than 20 mm^2 , the egg numbers oviposited per female adults were less than 60, and the percentage of nymphal hatching was no more than 57%. There were no obvious different developmental durations of nymphs among the varieties tested. [Conclusion] Compared with ‘TN1’ and ‘RHT’, the varieties ‘Hongpinuo Gu’ and ‘Lujiao Gu’ were susceptible varieties, and the variety ‘Chejia Gu’ was evaluated as a resistant variety.

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