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研究论文

杂交稻和常规稻生育后期追施NO_3^--N和NH_4^--N的生理效应

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摘要 采用盆栽试验，研究不同氮源对杂交稻和常规稻的生理效应。结果表明，在生育后期，NO_3-N比NH4-N更有效地提高水稻叶片叶绿素，可溶性蛋白质和核糖核酸的含量；增加光合磷酸化活力和$^{14}CO_2$同化速率；提高内源玉米素含量，降低脱落酸的水平。这些效应因叶位和水稻品种而异，上位叶片的反应大于下位叶片，杂交稻又比常规稻明显。试验结果还表明，追施NO_3-N者，灌浆谷粒中ATP水平较高，明显地推迟脱落酸高峰的出现期，并促进^{14}C-同化物向穗部运辖的能力。这些效应也是杂交稻优于常规稻。

关键词 硝态氮 铵态氮 光合作用 激素平衡 核酸和蛋白质含量 杂交水稻

分类号

Physiological Effect of Nitrate or Ammonia Top-dressing on Hybrid and Conventional Rice Varieties at the Late Growth Stage

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Abstract Pot experiment was conducted in 1986 to investigate the effect of NO_3^- or NH_4^+ top-dressing 7 days before heading to the physiological function of the leaf blades and grains of Shanyou 6 and Zheli 1. The results showed that NO_3^- N top-dressing increased signficaltly the chlorophyll content, the activity of photophosporylation and the rate of $^{14}CO_2$ assimilation in the rice leaves, compared with NH_4^+ N top-dressing. The levels of both soluble protein and ribonucleic acid in the leaves wigh NO_3^- N source. It was also shown that under NO_3^-N top-dressing the zeation contents in the rice leaves at milky stage were higher than those under NH_4^+N,while under NO_3^-N top-dressing at late .....

Key words Nitrate Ammoniun Photosynthesis Hormonal balance Protein and nucleic acid Hybrid rice

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