

研究论文

# 干旱、盐胁迫下LaCl<sub>3</sub>和CPZ对水稻脯氨酸积累的影响

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**摘要** 干旱、盐胁迫下水稻幼苗丙二醛(MDA)含量增加、质膜透性增大, 同时脯氨酸(Pro)积累; 以质膜Ca<sup>2+</sup>通道阻断剂LaCl<sub>3</sub>和钙调素(CaM)拮抗剂氯丙嗪(CPZ)对水稻幼苗预处理以阻碍Ca<sup>2+</sup>/CaM信使传导后, 加剧逆境下, 水稻幼苗MDA含量的增加、质膜透性的增大和Pro积累, 且Pro含量与MDA含量和质膜透性呈极显著正相关。表明干旱、盐胁迫下阻碍Ca<sup>2+</sup>/CaM信使传导后, 水稻幼苗Pro积累加剧, Pro积累的多少, 可反映水稻幼苗的伤害程度。

**关键词** [水稻幼苗](#) [干旱和盐](#) [LaCl<sub>3</sub>和CPZ](#) [脯氨酸](#)

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## Effects of LaCl<sub>3</sub> and CPZ on Proline Accumulation of Rice Seedling under Drought and Salt Stresses

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**Abstract** Under drought and NaCl stresses, MDA content and cell membrane permeability were increased, at the same time the proline in rice seedling was accumulated. Blocking Ca<sup>2+</sup>/CaM messenger system by pretreating rice seedling with CPZ (a kind of CaM agonist), or LaCl<sub>3</sub> (a kind of Ca<sup>2+</sup>-channel blocker), not only the MDA content and membrane permeability but also the proline accumulation in rice seedling were enhanced significantly under the stresses. Proline content was positively correlated very significantly with MDA content and membrane permeability respectively. The results suggested that blocking calcium messenger system transduction could affect proline accumulation in rice seedling, and the proline accumulation seems to be a symptom of rice seedling injury.

**Key words** [Rice seedling](#) [Drought and salt](#) [LaCl<sub>3</sub> and CPZ](#) [Proline](#)

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