

技术及应用

东方百合组培芽增殖阶段⁶⁰Co γ射线辐射效应研究

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摘要 采用⁶⁰Co γ射线辐照东方百合鳞片,组培后以其诱导的不定芽进行增殖培养,对芽3次增殖过程中的辐射效应进行研究。试验结果表明,辐照明显影响芽的增殖,但随增殖次数的增加,芽增殖数和芽增殖率受辐照因素的影响明显降低。在第1次增殖期,辐照对芽增殖的影响表现为抑制作用,这种现象在高剂量辐照时表现得更加明显;在第3次增殖期,辐照对芽增殖的抑制作用已消失,但芽的生理状态仍处于损伤修复作用的末期。辐照剂量对不同培养基上接种不同部位鳞片产生的不定芽蛋白质、MDA含量有不同影响。

关键词 [⁶⁰Co](#) [γ射线辐照](#) [东方百合](#) [不定芽](#) [增殖](#) [辐射效应](#)

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Effect of ⁶⁰Co γ-ray Radiation on Bud Proliferation of Oriental Lily Scales Cultured in vitro

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Abstract The effects of ⁶⁰Co γ-ray radiation on the bud proliferation of the oriental lily scales cultured in vitro were studied. The results show that the irradiation significantly inhibits bud proliferation, but the effects of radiation on the number of bud proliferation and the bud proliferation rate are obviously depressed along with the increasing of times of bud proliferation. The effect of radiation on the bud proliferation is repressive during the first time of bud proliferation and the effect is more significant in the higher radiation dosage treatment. The repressive effect of radiation on the bud proliferation disappears during the third time of bud proliferation, but the physiologic status is in the telophase of the damage repair action. The contents of protein and MDA of the bud were influenced differently depending on the radiation dosage and on the types of medium and positions of scales.

Key words [⁶⁰Co](#) [γ-ray](#) [irradiation](#) [oriental lily](#) [bud proliferation](#) [culture](#) [irradiation effect](#)

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