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籼稻体细胞培养再生植株染色体变异的研究[1)]

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摘要 以IR36及IR 54等品种的成熟种子及幼穗为外植体，获得籼稻体细胞培养再分化植株，并研究了再生植株当代（即第一代，SC!）的染色体变异。在319株SC：植株中发现四倍体10株，占总数的3.15fo。在二倍体中发现不育株7株（占2.2%），其中经细胞学分析发现2株(1984及1985年各发现1株）为多染色体相互易位杂合子。减数分裂的研究表明，MRT植株终变期时染色体构形呈十分复杂的情况。除正常的1211外，还呈现出一系列的多价体。配对最高价性为拾价体，7 11＋1X的构形占各种染色体构形总数的50.7%，分布最多。在这类染色体构形中，拾价染色体或呈环形（以711 + 1⑩表示），或呈链形（以71，十1四表示））o这表明该植株12对染色体中有5条非同源染色体发生了相互易位， 而这两株植株正是这种染色体易位的杂合子。

关键词 体细胞无性系变异；染色体相互易位；体细胞培养；籼稻

分类号

Chromosomal Variation of Regenerated Plants from Somatic Cell Culture in Indica Rice

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Abstract

Regenerated plants were obtained from somatic cell culture of IR36 and IR54 using matureseeds and young panicles as explants. The chromosome variation of regenerated plants in the first generation (SC,) was investigated. 10 tetraploid plants (3.1%) were found in the total319 SCE plants. Seven diploid plants (2.2%）were found to be sterile, among which two weremultiple reciprocal translocation （MRT). The results from analysis of meiosis showed that the chromosome configurations in diakinesisof the MRT plants were rather complex. Besides the normal configuration 1211 in dial<inesis,a lot of multi-valents were observed. The maximum multi-valent of chromosome con一figuration in diakinesis was ten-valent. The configuration 711 ＋1X was the mode one whici1made up 50.7% of all the various configurations. In the category configuration, the ten-valentshaped either closed ring shape (signifying as 711一1⑩ ） or open chain (signifying as 711＋1(10）. This showed that 5 non-homologoljs chromosomes out of the 12 pair chromosomesundertook reciprocal translocation, and it was the two plants to be the heterozygous of the multiplereciprocal translocation.

Key words Somaclonal variation Chroinosome translocation Somatic cell culture Indica rice

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