



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The Influence of Phosphate Treatment on Chromosome Segregations and  
Tetrad Regularity and Using Tetrads in Determination of Regular Meiosis  
Diploid ...

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**Abstract:** This study was carried out under greenhouse conditions in 1994-1995. The influence of phosphate treatments (0, 1, 2, 3 and 4g P<sub>2</sub>O<sub>5</sub> /pot) on chromosome segregation at the first anaphase (AI) and tetrad regularity in plants of diploid Senu variety of meadow fescue ( *Festuca pratensis*Huds.) and its artificial autotetraploid were studied. In addition, the relationship was determined between balanced AI segregations and regular tetrads with respect to regular meiosis. AI segregations were often balanced in eutetraploids but the frequency of balanced groups was found to be lower than that of the diploids. The difference between diploid and eutetraploid in terms of the frequencies of balanced cells and the frequency of cells with laggards at AI was found to be significant. The frequencies of cells with different AI segregations showed no difference under various phosphate treatments in the two ploidy levels. The number of micronuclei per tetrad (M/Q) was higher in eutetraploids than that of diploids whereas the percentage of regular tetrads was lower in the formers. The differences were significant between diploids and eutetraploids in terms of these two characteristics. On the other hand, the difference was significant between the phosphate treatments in terms of the percentage of regular tetrads in diploids and eutetraploids. In both diploids and eutetraploids, there was positive and significant correlation between the frequency of balanced AI cells and the percentage of regular tetrads whereas negative and highly significant relationship between the former and M/Q was noted.

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