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
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**The Effects of Phosphate Treatments on Chromosome Pairing in Diploid and
Autotetraploid Meadow Fescue (*Festuca pratensis*Huds.)**

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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 P₂O₅/pot) on meiotic chromosome pairing and the number of arms bound at the first metaphase (MI) in plants of diploid Senu variety of meadow fescue (*Festuca pratensis* Huds.) and its advanced generation (C 6) autotetraploid (Tetra Senu) were studied. In diploids, quadrivalents and univalents frequencies showed no difference with changes in phosphate treatments. Total bivalent frequency per cell remained stable with phosphate changes in spite of a significant increase in the number of arms bound. With phosphate effect, however, a reduction in rod bivalent frequency and a parallel increase in ring bivalent frequency were observed. On the other hand, negative and significant correlation was found between ring bivalent frequency and univalent and quadrivalent frequencies whereas positive and significant correlation was found between the last two properties. There was significant difference in ring bivalent frequency per cell between phosphate treatments in autotetraploids. In addition, positive and significant correlation was found between ring bivalent frequency and the number of arms bound whereas negative and insignificant association was found between the latter and quadrivalent frequency. Therefore, negative and significant correlation was found between ring bivalent frequency and quadrivalent frequency.

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