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[\[PDF \(995K\)\]](#) [\[References\]](#)**Quantitative Analysis of Cell Division and Cell Death in Seminal Root of Rye under Salt Stress**[Atsushi Ogawa](#)¹⁾, [Kinji Kitamichi](#)¹⁾, [Kyoko Toyofuku](#)¹⁾ and [Choji Kawashima](#)¹⁾

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Abstract: Cell division and cell death in the cell division zone of the roots of rye seedlings under salt stress were analyzed quantitatively. Cell division was examined by immunological staining with anti-5-bromo-2'-deoxyuridine (BrdU) and cell death by terminal deoxynucleotidyl transferase (TdT)-mediated dUTP nick end labeling (TUNEL). In the 0-700 μm portion from the root tip, which is the cell division zone, the frequency of cell division increased linearly during BrdU treatment. Therefore, the frequency of cell division under salt stress was compared with that in the control at 7 hours after application of BrdU. In the 250 mM NaCl solution (salt stress), the frequency of cell division was decreased and that of cell death was increased as compared with the control resulting in the inhibition of root elongation. In the presence of 50 and 100 mM NaCl, the frequency of cell division was also significantly increased and cell death was hardly detected, and root growth was unchanged as compared with the control. These results suggested that the increase of cell division complemented the decrease of cell elongation due to salt stress, and consequently maintained root growth under mild salt stress conditions.

Keywords: [Cell death](#), [Cell division](#), [Root elongation](#), [Rye \(*Secale cereale* L.\)](#), [Salt stress](#)[\[PDF \(995K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)[BibTeX](#)

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