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Chapter 60 – 2-Acetyl-1-Pyrroline Synthesis during Rice Plant (*Oryza sativa* L.) Growth under Controlled Salinity Conditions

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Aychade, a fragrant rice variety from the Camargue area of France, was cultivated in a greenhouse under different salinity treatments. Only one concentration level of salt solution (30 mM corresponding to $EC=3800\pm 400 \mu S/cm$) was applied, but the timing and duration of salt treatment varied according to the plant growth stage. 2-Acetyl-1-pyrroline (2AP) synthesis was induced in the leaves mainly at the vegetative phase. The increase was correlated with the proline level but not with that of γ -aminobutyric acid (GABA). Interestingly, 2AP levels increased significantly in the grains from the plants subjected to salt treatments. The highest increase occurred in the grains issued from the plants salt-treated during the whole vegetative and reproductive phases.

Keywords

salinity stress; fragrant cultivar; Aychade; 2-acetyl-1-pyrroline; biosynthesis

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