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A glance into aluminum toxicity and resistance in plants.

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Abstract

Aluminum toxicity is an important stress factor for plants in acidic environments. During the last decade considerable advances have been made in both techniques to assess the potentially toxic Al species in environmental samples, and knowledge about the mechanisms of Al toxicity and resistance in plants. After a short introduction on Al risk assessment, this review aims to give an up-to-date glance into current developments in the field of Al toxicity and resistance in plants, also providing sufficient background information for non-specialists in aluminum research. Special emphasis is paid to root growth and development as primary targets for Al toxicity. Mechanisms of exclusion of Al from sensitive root tips, as well as tolerance of high Al tissue levels are considered.

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