

Physiological Responses to Heavy Metals in Higher Plants; Defence against Oxidative Stress

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Depending on the physiological process investigated heavy metal phytotoxicity can be either inhibitory or stimulatory. Photosynthesis and its partial light and dark reactions are inhibited; the activity of various enzymes, located in several cell compartments, is increased. These enzymes are mostly induced since metals affect the transcription activity. They appear to be related to the plant defence against oxidative stress caused by metal phytotoxicity. Careful examination of the time course of this induction reveals differences in response between the metals applied.