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Nota di contenuto	Plant Proteomics; Contents; Preface; Contributors; 1 Plant proteomics: challenges and resources; 1.1 Introduction; 1.2 Challenges; 1.2.1 Sample extraction; 1.2.1.1 Two-dimensional gel electrophoresis; 1.2.1.2 Direct MS analysis of samples; 1.2.2 Sample preparation and arraying; 1.2.2.1 Two-dimensional gel electrophoresis; 1.2.2.2 One-dimensional gel electrophoresis; 1.2.2.3 Blue-native gel electrophoresis; 1.2.2.4 Direct analysis of samples by MS; 1.2.3 Mass spectrometry (MALDI and ESI); 1.2.3.1 MALDI; 1.2.3.2 ESI; 1.2.4 Analysis depth; 1.2.5 Data analysis; 1.2.5.1 Peptide mass fingerprints 1.2.5.2 Peptide fragmentation data (MS/MS)1.2.5.3 Analysis options; 1.2.6 Quantitation; 1.2.6.1 Gel stains; 1.2.6.2 Chemical labelling of sample; 1.2.7 Modifications; 1.2.8 Data; 1.3 Resources; 1.3.1 Proteomic databases; 1.3.2 Online proteomic tools and resources; 1.4 Future; 2 Proteomic analysis of post-translational modifications by mass

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Sommario/riassunto

The proteome comprises all protein species resulting from gene expression in a cell, organelle, tissue or organism. By definition, proteomics aims to identify and characterise the expression pattern, cellular location, activity, regulation, post-translational modifications, molecular interactions, three dimensional structures and functions of each protein in a biological system. In plant science, the number of proteome studies is rapidly expanding after the completion of the *Arabidopsis thaliana* genome sequence, and proteome analyses of other important or emerging model systems and crop