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<i>Review</i> : Die and let live: leaf senescence co plant survival under drought stress <i>Sergi Munné-Bosch and Leonor Alegre</i>	ontributes to 203–216	This review deals with mechanisms of drought stress resistance in plants, and focuses on how leaf senescence contributes to plant survival under adverse climatic conditions. This subject has been addressed extensively in experimental work, but not recently in a review.
Ectopic expression of a <i>Eucalyptus grandi</i> , orthologue alters the flowering time of <i>Arabidopsis thaliana</i> <i>Elizabeth M. Brill and John M. Watson</i>	s SVP 217–224	A new MADS-box gene, <i>EgrSVP</i> was isolated from vegetative tips of <i>Eucalyptus grandis</i> saplings. Phylogenetically, it is grouped in the JOINTLESS clade. Transgenic <i>Arabidopsis</i> plants over-expressing <i>EgrSVP</i> , exhibited a variety of altered phenotypes and some degree of late flowering. These results show that <i>EgrSVP</i> is involved in vegetative development.
<i>Eucalyptus grandis</i> has at least two function floral activator genes <i>John M. Watson and Elizabeth M. Brill</i>	onal <i>SOC1</i> -like 225–234	The isolation and characterization of two <i>Eucalyptus grandis</i> genes involved in floral initiation and development is described. Both genes are putative orthologues of the <i>Arabidopsis</i> flower- ing-time gene <i>SOC1</i> , suggesting that they have a similar function to the <i>Arabidopsis</i> genes. These genes are equally, and most- actively expressed in vegetative tissues and less-actively, but differentially, expressed in roots and unopened flowers.
Transgenic down-regulation of caffeic acid O-methyltransferase (COMT) led to improved digestibility in tall fescue (<i>Festuca arundinacea</i>) Lei Chen, Chung-Kyoon Auh, Paul Dowling, Jeremey Bell, Deane Lehmann and Zeng-Yu Wang 235–245		Genetic modification of lignin biosynthesis is expected to have considerable economic impact on forage digestibility and paper pulping. Although there are many reports on lignin modification in model dicot species, there is little information on digestibility improvement in forage grasses. This report demonstrates that manipulation of COMT can cause significant increases in digestibility of <i>Festuca</i> .
Paraquat resistance in a population of <i>Lolium rigidum</i> <i>Qin Yu, Andrew Cairns, Stephen B. Powles</i> 247–254		Paraquat is a non-selective, rapid-action herbicide that has been in commercial usage for total weed control in agriculture and industry for 40 years. Biotypes of 22 weed species worldwide have evolved paraquat resistance. Yu <i>et al.</i> describe the first case of field-evolved paraquat resistance in a biotype of <i>Lolium</i> <i>rigidum</i> . The mechanism of resistance was investigated, and temperature effects are described.

Cover illustration: Maule staining for lignin in cross sections of control (left) and transgenic (right) tall fescue with down-regulated expression of a caffeic acid *O*-methyltransferase gene (see Chen *et al.* pp. 235–245).

Estimating photosynthetic light-use efficiency using the photochemical reflectance index: variations among species <i>Jianmin Guo and Craig M. Trotter</i> 255–265	Photochemical reflectance index (PRI) can be used as a measure of photosynthetic light-use efficiency (LUE), and is an indicator of plant net primary productivity. However, the consistency of the PRI-LUE relationship across species is uncertain. These authors examined the relationship between the PRI and photosynthetic parameters for species with varying photosynthetic capacity. Their results provide an approach that should assist evaluation of the usefulness of the PRI as a measure of LUE.
Spectral properties, gas exchange, and water potential of leaves of glandular and non-glandular trichome types in <i>Datura wrightii</i> (Solanaceae) <i>James L. Smith II and J. Daniel Hare</i> 267–273	Trichomes are important in plant defense against herbivores and pathogens, and can play a prominent role regulating leaf energy balance. This study reports ecophysiological differences under field conditions of sticky <i>v</i> . velvety leaf trichomes of <i>Datura</i> <i>wrightii</i> . The authors compare photosynthesis, transpiration, and leaf temperature for the two forms. Variation in these parameters was relatively low, and trichome variation may be more important for plant defence than physiology.
A simple new equation for the reversible temperature dependence of photosynthetic electron transport: a study on soybean leaf <i>Tania June, John R. Evans and Graham D. Farquhar</i> 275–283	These authors have developed a simple model for the temperature response of photosynthetic electron transport in the absence of Rubisco limitation. Special attention was paid to the reversible decrease of electron transport rate at super optimal temperatures above 35–40°C. A convenient new Gaussian-type equation for the temperature dependence of the rate of electron transport under high irradiance is proposed.
The Tic40 translocon components exhibit preferential interactions with different forms of the Oee1 plastid protein precursor <i>Kenton Ko, Susitna Banerjee, Jennette Innes,</i> <i>Darcie Taylor and Zdenka Ko</i> 285–294	The interaction of precursor proteins with components of the import apparatus is an interesting aspect of the mechanism of protein transport across biological membranes. This study focuses on interactions between two forms, in an attempt to dissect their mode of operation, and build our understanding of the role of these components in protein transport.