



Bulletin des sommaires

Avril 2012





Avis aux Lecteurs

Le présent bulletin des sommaires concerne le sommaire des périodiques reçus au Service de Documentation de l'INRA.

La consultation du sommaire des périodiques est rendue facile grâce à la liste alphabétique des titres des périodiques ci-jointe. Cette liste renvoie aux pages des sommaires dans ce bulletin, ainsi les articles qui vous intéressent peuvent être commandés auprès du Service en respectant de mentionner les données suivantes :

- Le titre du périodique ;
 - Le volume et le numéro du périodique ;
 - La cote de rangement du périodique ;
 - Le titre de l'article et la page où est située l'article ;
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DAW D HALL ID2715-2

Adult Asian citrus psyllid killed by a biocontrol fungus. This beneficial fungus may prove useful in battling the psyllid, which is spreading a devastating citrus disease in the United States. Story begins on page 4.

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Cover: The brown marmorated stink bug is easily recognized by many because it's invading our homes. But the pest, shown here feeding on an apple, is also a major economic threat to fruit crops, garden vegetables, and many ornamentals. ARS scientists are fighting back by developing traps, sequencing the bug's genome, and testing parasitic wasps as biocontrols. Story begins on page 18. Photo by Stephen Ausmus. (D2709-1)

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Simon Lévesque, Karen St-Pierre, Eric
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Cover photograph (Copyright © 2012, American Society for Microbiology. All Rights Reserved.): False-color transmission electron microscope image of an engineered silver-tolerant *Escherichia coli* cell grown in the presence of AgNO₃. The silver tolerance of these cells is due to the expression of a combinatorially selected silver-binding dodecapeptide, fused to the periplasmic maltose-binding protein, which allows growth and maintenance of viability in the presence of toxic concentrations of Ag ions for several hours in batch culture. Electron-dense particles accumulate in the cell envelope and are visible around the periphery of the cell; some of these particles are nanocrystalline Ag particles (inset). This silver-binding peptide lacks both Cys and His residues yet binds to the metal with nanomolar affinity. The ability of short peptide motifs to manipulate bacterial interactions with heavy metals has potential implications for diverse activities, including nanomaterial synthesis and remediation. Photos by Ruth Hall Sedlak, Mehmet Sarikaya, Candan Tamerler, and Beth Traxler, University of Washington. (See related article on page 2289.)

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Cover photograph (Copyright © 2012, American Society for Microbiology. All Rights Reserved.): Cartoon representation of the monomeric form of the first dimeric structure of a type I Baeyer-Villiger monooxygenase, represented here by the camphor pathway 2-oxo-Δ^{4,5,5}-trimethylcyclopentenylacetyl-CoA monooxygenase (OTEMO) with bound FAD and NADP⁺. Both FAD (yellow carbon) and NADP (orange carbon) are shown in ball representation; the FAD-binding domain is colored in green; the NADP-binding domain in magenta, and the flap domain in cyan. Comparison of various crystal structures of the OTEMO-FAD-NADP⁺ complex reveals remarkable conformational plasticity of the active-site region, which may be correlated with the broad substrate scope of OTEMO. (See related article in April 2012, vol. 78, no. 7, p. 2200.)

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Cover photograph (Copyright © 2012, American Society for Microbiology. All Rights Reserved.): A germinating spore of the rust fungus *Puccinia graminis* f. sp. *tritici*. Under certain conditions, this plant pathogen develops infection structures whose cell walls contain chitin, which is deacetylated to chitosan, thereby allowing the fungus to evade the chitin-driven immune response of the plant. The associated article describes the development of a chitosan affinity protein (CAP), which is fused to enhanced green fluorescent protein. CAP is able to specifically detect chitosan in the substomatal vesicle and infection hypha. The chitin-containing parts of the structures were stained with commercially available wheat germ agglutinin coupled to Texas Red. Note the gradient from red to green starting at the tip of the infection hypha; this is consistent with the notion that the tip contains chitin that later during growth is deacetylated, apparently generating a gradient of highly to minimally acetylated chitosan from the tip to the end of the infection hypha. (See related article on page 3114.)

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Cover photograph (Copyright © 2012, American Society for Microbiology. All Rights Reserved.): Scanning electron micrograph of the chlorophyll (Chl) *d*-containing cyanobacterium *Acytochloris marina* growing in dense biofilm aggregates inside alginate beads. This unique cyanobacterium is the only known phototroph that has exchanged its Chl *a* for Chl *d*, allowing it to perform oxygenic photosynthesis using near-infrared radiation (NIR). In nature, *Acytochloris* thrives in biofilms colonizing microneches experiencing strong depletion of visible light, while sufficient NIR prevails. In the laboratory, it grows relatively fast in both planktonic and biofilm growth modes when kept under NIR light. Photo by Klaus Qvortrup and Lars Behrendt, University of Copenhagen. (See related article on page 3896.)

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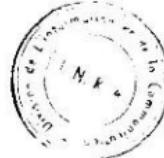
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On the Cover: Nordic landraces of wheat (*Triticum* spp.) were studied in a field trial experiment conducted by the Nordic Genetic Resource Center (NordGen) at Alnarp in the south of Sweden. This image is from August 2010 and illustrates the awns on traditional Nordic landraces. Most modern cultivars of bread wheat (*Triticum aestivum* L.) are awnless. See Endresen et al., p. 764. Photo by Dag Terje Filip Endresen.

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On the Cover: A soil core (right) taken from a topdressed annual bluegrass (*Poa annua*) putting green turf shows the accumulation of sand at the surface compared to non topdressed turf (left). Anthracnose severity was reduced in turf where sand from topdressing had accumulated. See Inguagiato et al., p. 1406. Photo by John Inguagiato.

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On the Cover: A surface drip irrigated cotton (*Gossypium hirsutum* L.) crop monitored by infrared canopy temperature thermometers for water stress detection. Canopy temperatures were affected by irrigation treatment and associated with crop yield, with the optimum canopy temperature observed at approximately 28°C. Knowledge of this optimum temperature can be used as the foundation for irrigation scheduling based on canopy temperatures. See Conaty et al., p. 1828. Photo by Warren Conaty.

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Heredity

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Special issue: Molecular Cytogenetics: Karyotype evolution, Phylogenomics and Future Prospects

Guest Editors:

Professor Terence J Robinson, University of Stellenbosch, South Africa and
Dr Fengtang Yang, The Wellcome Trust Sanger Institute, Cambridge, United Kingdom

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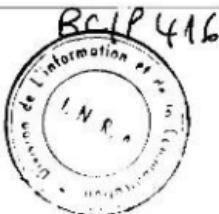


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La nouvelle politique agricole vise à mieux utiliser les ressources naturelles locales et à favoriser l'autonomie fourragère des élevages. La production des pâtures est irrégulière dans l'ouest de la Suisse, en particulier dans le Massif du Jura. L'optimisation du potentiel de production des herbes exige par conséquent une bonne gestion des pâtures. (Photo: Juratourisme)

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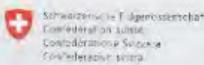
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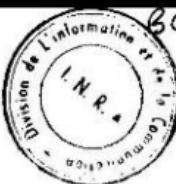
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