

1st
FEMS CONGRESS
OF EUROPEAN
MICROBIOLOGISTS

SLOVENIA

LJUBLJANA, CANKARJEV DOM
June 29 – July 3, 2003

**ABSTRACT
BOOK**

Published by Elsevier on behalf of the Federation of European Microbiological Societies



Contents

(For full contents, see page iii)

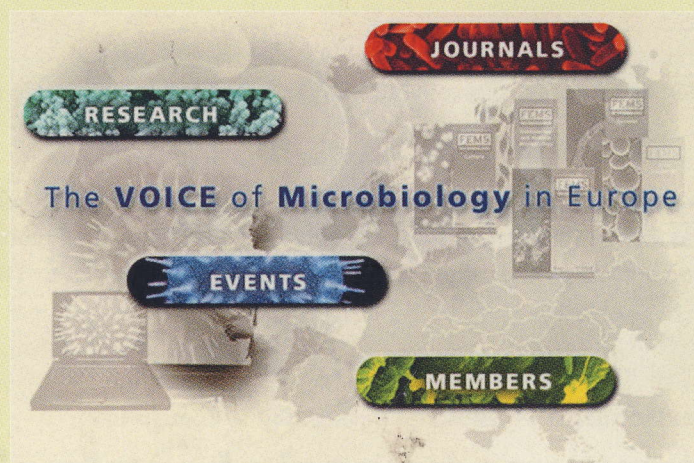
Introduction	v
Plenary, Opening and Closing Lectures	1
Symposia	3
Round Table	27
Afternoon Sessions and Seminars	29
Posters	103
Author Index	507
Notes to Authors FEMS Journals 2003	I

*Visit the FEMS Website to keep up-to-date with
Microbiology Events, news from the Member Societies,
the Journals, the Circular and more!*

<http://www.fems-microbiology.org>

FEMS

*The Federation of European Microbiological Societies
is devoted to the promotion of microbiology in Europe*



P1-12

COMPARATIVE EFFECTS OF FEEDING CONTAINING FLAVOMYCIN, BIOTEKSIN-L AND DRY YEAST (*SACCHAROMYCES CEREVISIAE*) ON BROILER PERFORMANCE

M. Denli(1), K. Çelik(2), F. Okan(1)

(1) Çukurova University Animal Sci. Dept., 01330 Adana, Turkey; (2) Çanakkale Onsekiz Mart University, Animal Sci. Dept., Çanakkale 17100, Turkey

A 6-week study was conducted to determine the effects of feeding diets containing commercial probiotic (Biyoteksin-L), antibiotic (Flavomycin) and dry yeast (*Saccharomyces cerevisiae*) upon would affect performance, abdominal fat weight, carcass weight and carcass yield of broiler chicks. Four dietary treatments were randomly assigned to four groups of chicks. A control or containing 0,15% commercial probiotic (bioteksin-L), 0,15% antibiotic, (flavomycin) and 0,3 % dry yeast. A significant increase in body weight gain, feed conversion rate and carcass weight of birds was observed in birds fed flavomycin group and dry yeast group in end of 6-wk period compared to the control ($P < 0.05$). This increase was partly accounted for by increased feed intake. The results obtained in the experiment showed that Biyoteksin-L and *Saccharomyces cerevisiae* plus supplementation to diets tended to decrease, abdominal fat weight and abdominal fat percentage ($P < 0.5$), while having no significant effects on carcass yield.

P1-13

PURIFICATION AND PARTIAL CHARACTERIZATION OF A NOVEL BACTERIOCIN PRODUCED BY A THERMOPHILIC ENDOSPORE-FORMING STRAIN *GEOBACILLUS STEAROTHERMOPHILUS* 32A

K. Pokusajeva, M. Stuknyte, N. Kuisiene, D. Chitavichius

Department of Microbiology and Plant Physiology, Vilnius University, Chiurlionio 21/27, Vilnius, LT-2009, Lithuania

Aerobic, endospore-forming thermophilic strain *Geobacillus stearothermophilus* 32A was identified as a two bacteriocins producer with a bactericidal activity against *Geobacillus subterraneus* DSM 13552, *G. uzenensis* DSM 13551, *G. thermocatenulatus* DSM 730, and *G. thermoleovorans* DSM 5366. These bacteriocins are produced during log-phase growth and are inhibitory to active growing cells. The antimicrobial activities of these substances differ. Twofold dilution tests showed that the activity of one of the bacteriocins appeared later after another one disap-

peared. The antimicrobial activity of the bacteriocins on the sensitive indicator cells disappeared completely by treatment with proteinase K, which indicates its proteinaceous nature. Bactericidal activity was kept during storage at 4°C and was remarkably stable in the wide range of pH. In SDS-PAGE analysis, only two peptide bands displayed antimicrobial activity against thermophilic indicator strain 35C. The inhibitory peptides had a molecular weight of approximately 12 and 6.8 kDa. Results of this study suggest that these antimicrobial substances produced by the wild type strain of *Geobacillus stearothermophilus* 32A may be the new bacteriocins.

P1-14

PHENOTYPIC, GENOTYPIC AND TECHNOLOGICAL CHARACTERISTICS OF LACTOCOCCI ISOLATED FROM TRADITIONAL FIORE SARDO CHEESE

S. Cosentino, M. B. Pisano, C. Piras and A. Corda

Department of Experimental Biology, Section of Hygiene, University of Cagliari, S.S. 554, Km. 4,500, 09042 Monserrato (CA), Italy

The evolution and composition of dairy microflora is of particular interest for PDO cheeses such as Fiore Sardo, that is manufactured with raw ewe's milk without the addition of any natural or starter cultures. In this case, the ripening process relies entirely on the indigenous flora present in the milk and in the dairy environment. Studies carried out on the microflora of Fiore Sardo have shown lactococci and enterococci to be the dominant bacterial population. This paper reports the phenotypic, genotypic and technological characterization of lactococcal strains isolated from 14 batches of artisanal Fiore Sardo cheese, in order to assess the biodiversity within this wild microbial population. Lactococci were isolated from M17 agar plates incubated at 30°C and were initially identified by morphological, physiological and biochemical tests. This identification was confirmed by a polymerase chain reaction analysis with *Lactococcus* genus specific primers LC1 and LC2. Randomly amplified polymorphic (RAPD) DNA technique was used for the genetic typing of the isolates. A total of 80 isolates were identified as *Lactococcus lactis*. Most strains were able to hydrolyse casein, none produced lipolytic reactions on tributyrin agar and several were good acid-producers. The RAPD patterns from 50 representative strains were analysed by UPGMA dendrograms. At a similarity level of 50% two main clusters with several subclusters were distinguished, showing a high heterogeneity in the biotypes. The results of our survey confirm that wild bacterial population should be preserved to protect the traditional raw milk cheeses and to select new starter strains for the dairy industry.