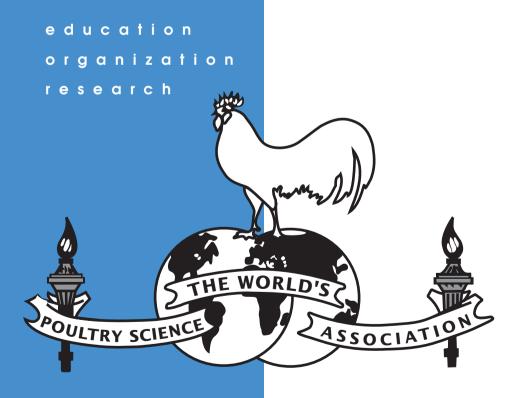
# POULTRY SCIENCE JOURNAL



www.wpsa.com

volume 66, march 2010 number 1



## NUTRASE

ENDO-1,4-B-XYLANASE

FOR MORE PROFIT

Improved growth and FCR

More breast meat

UNIQUE — Optimal activity at neutral pH

**CHARACTERISTICS** 

Less sensitive for xylanase inhibitors

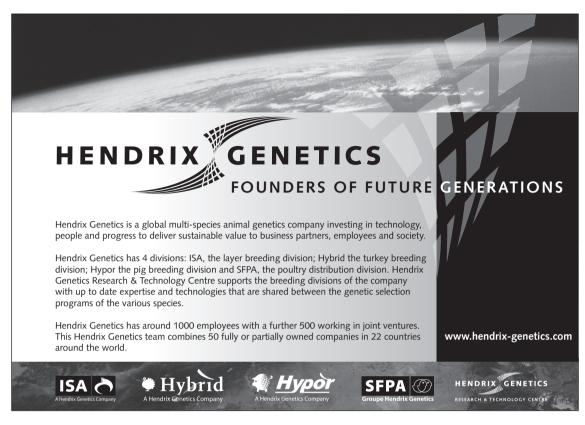
Highly stable during pelletizing and digestion

Break-down of soluble and insoluble arabinoxylans

**EFFICIENCY** 

PROVEN — Effective in wheat, barley, rye, corn and grain by-products Only one enzyme needed for a broad range of monogastric

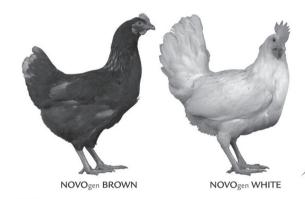
We are a research-oriented company specialised in the production and marketing of ingredients for feed and food. We work through a network of local distributors. Our goal is to build up a durable relationship with our partners, in an open co-operation. Achterstenhoek 5-2275 Lille - Belgium - info@nutrex, be -tel +32 1488 31 11 - fax +32 1488 31 01





#### Have a close look...

Novogen, the latest layer breeding company with another view of your business.







www.novogen-layers.com















#### XIII<sup>th</sup> European Poultry Conference

Tours, France, 23-27 August 2010

The multidisciplinary program of the **XIII**th **European Poultry Conference in 2010** will address a wide range of subject matters such as: economics, education, nutrition, environment, production system, product quality and safety, genetics, reproduction, welfare, behavior and bird health, all while looking forward toward a more sustainable poultry production

Further information for authors, sponsors and attendees concerning the scientific programme and the organization can be found on the website:



### POULTRY SCIENCE

**JOURNAL** 

#### Volume 66 March 2010 Number 1

1	Editorial		

#### 2 Sponsorship

#### Reviews

- 5 Discerning liability for contamination by poultry integrators and producers under US federal law *T.J. Centner*
- 17 Pre-slaughter handling and slaughtering factors influencing poultry product quality M. Petraccil, M. Bianchi and C. Cavani
- 27 Application of egg yolk antibodies as replacement for antibiotics in poultry M. Yegani and D.R. Korver
- 39 Empirical testing of correlations between the effects of country-of-origin and consumer perceptions *R. Strašek*
- 53 Effect of extrusion processing on starch gelatinisation and performance in poultry *E. Abd El-Khalek and G.P.J. Janssens*
- 65 Comparative aspects of Fusarium mycotoxicoses in poultry fed diets containing naturally contaminated grains G.N. Girgis and T.K. Smith
- 87 Effects of incubation temperature on hatching and carcass performance of broilers S. Yalçin, E. Babacanoğlu, H.C. Güler and M. Akşit
- 95 Environmental impact evaluation of conventional, organic and organic-plus poultry production systems using life cycle assessment A. Boggia, L. Paolotti and C. Castellini

#### **Small-Scale Family Poultry Production**

- Egg-Drop Syndrome '76 in different bird species in Nigeria a review of the epidemiology, economic losses, challenges and prospect for management and control W.S. Ezema, J.A. Nwanta, L.O. Aka and E.V. Ezenduka
- Factors influencing the performance of farmers in broiler production of Faridpur District in Bangladesh

M.S. Ali and M.M. Hossain

#### **Summaries**

- 132 Chinese, French, German, Russian, Spanish
- 149 Erratum

#### World's Poultry Science Association

- 150 Information and Officers
- 154 Association News
- 165 Calendar
- 167 Education and Training
- 170 Notes for Contributors

#### Editor

Dr L.A. Tucker LWT Animal Nutrition Ltd PO Box 307, Feilding 4740 New Zealand

Phone: +64 6328 9026. Mobile +64 21743374 Fax: +64 6328 9027

E-mail: lucy.tucker@xtra.co.nz

#### International Editorial Board

Prof W. Bessei, Germany Prof I.J. H Duncan, Canada Prof D.J. Farrell, Australia Prof R.M. Gous, South Africa Dr. E.F. Guèye, Mali Prof P. Horn, Hungary Dr P. Hunton, Canada

#### Assistant Editor

Mrs D.M. Kleverwal World's Poultry Science Association Dr S. Cherepanov, Russia PO Box 31, 7360 AA Beekbergen Prof D.K. Flock, Germany The Netherlands

Phone: +31 570 541948 Fax: +31 207 508941 E-mail: wpsa@xs4all.nl

#### Associate Editors

Prof J.A. Castelló, Spain Dr D. Grastilleur, France Prof N. Yang, China

Dr M. Lilburn, USA Dr R.W.A.W. Mulder, Netherlands Prof. Y. Nys, France Prof Jun-ichi Okumura, Japan Prof H. Pingel, Germany Dr R.A.E. Pym, Australia Prof J.R. Roberts, Australia

Prof G.D. Rosen, UK Prof P.J. Sharp, UK Prof P.B. Siegel, USA Prof S.E Solomon, France Dr M. Tixier-Boichard, France Prof S. Yahav, Israel

The World's Poultry Science Journal is published in March, June, September and December by the World's Poultry Science Association. The Secretary of the Association is Dr Roel W.A.W. Mulder, PO Box 31, 7360 AA Beekbergen, The Netherlands (phone: +31 6 51519584, fax: +31 55 506 4858, e-mail: roel.mulder@wpsa.com, website: www.wpsa.com).

Disclaimer: The Editors of the World's Poultry Science Journal take all reasonable steps to ensure the accuracy of material published. However, all statements, conclusions and opinions expressed in it are those of the authors and contributors; the Editors, Associate Editors, Members of the Editorial Board and the Publishers accept no responsibility or liability for them.

2010 subscription rates: £166/\$300 for organisational online & print; £128/\$238 for organisational online only; £86/\$158 for individuals online & print; £75/\$137 for individuals online only.

Subscription enquiries and orders: Orders, which must be accompanied by payment, may be sent to a bookseller, subscription agent or to the Publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge, CB2 2RU, UK; or in the USA, Canada and Mexico: Cambridge University Press, Journals Fulfilment Department, 100 Brook Hill Drive, West Nyack, New York 10994-2133. EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country rate. VAT registered subscribers should provide their VAT registration number. Japanese prices for institutions are available from: Kinokuniya Company Ltd, PO Box 55, Chitose, Tokyo 156, Japan.

Periodicals postage pending at New York, NY, and at additional mailing offices. Postmaster: send address changes in USA, Canada and Mexico to: World's Poultry Science Journal, Cambridge University Press, 100 Brook Hill Drive, West Nyack, New York 10994-2133. Claims for missing issues should be made immediately on receipt of the subsequent issue.

Back issues: Dr Roel Mulder, PO Box 31, 7360 AA Beekbergen, The Netherlands.

Advertising enquiries: Dr Roel Mulder, PO Box 31, 7360 AA Beekbergen, The Netherlands (phone: +31 6 51519584, fax: +31 55 506 4858, e-mail: roel.mulder@wpsa.com) or Dr Piet Simons (piet.simons@wur.nl).

Copyright: All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, optical, mechanical, photocopying, recording or otherwise without the written permission of the copyright holder. © World's Poultry Science Association.

Reprints and Photocopying: Readers who require multiple copies of papers published in this journal may either purchase reprints (minimum order 100) or obtain permission to copy from the Editor. However, permission is granted for the making of single copies of articles for internal or personal use. In North America, this permission is granted by the copyright owner for libraries and others registered with the Copyright Clearance Center Inc. (CCC) to make single copies of any article herein for the flat fee of \$3 per article. Payment should be sent directly to CCC, 2 Congress Street, Salem, MA 01970, USA. The item-free Code for this publication indicates that authorization is to make single copies only for internal or personal use. Serial-free Code: ISSN 0043-9449, \$3. In the UK, the Copyright Licensing Agency (CLA), 90 Tottenham Court Road, London W1P 9HE is mandated to grant permission to make single copies.