

THE

Journal

OF THE AMERICAN
LEATHER CHEMISTS ASSOCIATION



110th Annual Convention

to be held at the
Gideon Putnam Resort
Saratoga Springs, New York
June 18 - 20, 2014

For more information go to
[www.leatherchemists.org/
annual_convention.asp](http://www.leatherchemists.org/annual_convention.asp)

ISSN: 0002-9726

March 2014

Vol. CIX, No. 3

JALCA 109(3), 70-98, 2014

CONTENTS

Effects of Thickness and Grain on the Amplitude of Airborne Ultrasonics	70
<i>by C.-K. LIU AND N. LATONA</i>	
Studies on Ethiopian Sheep Skins as an Opportunity for Value Addition Part I: Histological, Microscopic and Chemical Characterization of Abyssinian and Wanke Sheepskins	76
<i>by H. MOHAMMED, G. AYSANEW, R. ARAVINDHAN, A. GNANAMANI, J. RAO AND N. CHANDRABABU</i>	
Biopolymers Produced from Gelatin and Whey Protein Concentrate Using Polyphenols	82
<i>by M. TAYLOR, J. LEE, L. BUMANLAG, R. LATONA AND E. BROWN</i>	
Improvement in Leather Surface Hydrophobicity through Low-pressure Cold Plasma Polymerization	89
<i>by YA-E FENG, XUEPIN LIAO, YANAN WANG AND BI SHI</i>	
Lifelines	96
ALCA News	
Research Liaison Committee Spring Meeting, April 22, 2014	97
Call for papers for the 110th Annual Meeting, June 18-20, 2014	98

COMMUNICATIONS FOR JOURNAL PUBLICATION

Manuscripts, Technical Notes and Trade News Releases should contact

MR. ROBERT F. WHITE, *Journal Editor*, 1314 50th Street, Suite 103, Lubbock, TX 79412, USA.

E-mail: jalcaeditor@prodigy.net

Mobile phone: (616) 540-2469

Contributors should consult the Journal Publication Policy at
http://www.leatherchemists.org/journal_publication_policy.asp

Optimize wetblue consistency. Maximize process efficiency.

Quality leather begins with consistent wetblue. And that begins with Buckman Beamhouse & Tanyard Systems. We bring you the products and processes you need to ensure consistency, make crust and finishing easier, and produce superior leather more sustainably and efficiently.

Contact your Buckman representative today to discuss all the benefits of Buckman Beamhouse & Tanyard Systems, or visit us at www.buckman.com.



JOURNAL OF THE AMERICAN LEATHER CHEMISTS ASSOCIATION

Proceedings, Reports, Notices, and News
of the
AMERICAN LEATHER CHEMISTS ASSOCIATION

OFFICERS

STEVE LANGE, *President*
Leather Research Laboratory,
University of Cincinnati
5997 Center Hill Avenue, Bldg. C
Cincinnati, OH 45224

SARAH DRAYNA, *Vice-President*
LANXESS Corporation
6150 S. Conservancy Dr.
New Berlin, WI 53151

DAVID PETERS, *Vice-President Elect*
Twin City Hide
105 Hardman Ct., Suite 100
So. Saint Paul, MN 55075

COUNCIL

Goetz Hagen
Tannin Corporation
4331 Chesapeake Dr.
Charlotte, NC 28216

Gary Rennerfeldt
Tyson Foods, Inc.
800 Stevens Port Drive
Dakota Dunes, SD 57049

John Rodden
Union Specialties, Inc.
3 Malcolm Hoyt Drive
Newburyport, MA 01950

Chris Koelblinger
Horween Leather Co.
2015 N. Elston Ave.
Chicago, IL 60614

Andreas W. Rhein
Tyson Foods, Inc.
800 Stevens Port Drive
Dakota Dunes, SD 57049

Susan Steele
Buckman USA
1256 N. McLean Blvd.
Memphis, TN 38108

EDITORIAL BOARD

Dr. Meral Birbir
Department of Biology
Marmara University
Istanbul, Turkey

Dr. Cheng-Kung Liu
Eastern Regional Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Andreas W. Rhein
Tyson Foods, Inc.
Dakota Dunes, South Dakota

Chris Black
Consultant
St. Joseph, Missouri

John Moore
Retired
Petaluma, California

Dr. Bi Shi
National Key Laboratories
Sichuan University
Chengdu, China

Dr. Eleanor M. Brown
Eastern Regional Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Dr. Edwin H. Nungesser
Dow Chemical Company
Spring House, Pennsylvania

George Stockman
Buckman USA
Memphis, Tennessee

Dr. Anton Ela'mma
Retired
Perkiomenville, Pennsylvania

Dr. Roger A. Pinto
GST AutoLeather, Inc.
Livonia, Michigan

Maryann M. Taylor
Eastern Regional Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Elton Hurlow
Buckman International
Memphis, Tennessee

Dr. Mila Aldema Ramos
Eastern Regional Research Center
U.S. Department of Agriculture
Wyndmoor, Pennsylvania

Brandon Yoemans
S. B. Foot Tanning Co.
Red Wing, Minnesota

Prasad V. Inaganti
Wickett and Craig of America
Curwensville, Pennsylvania

Dr. J. Raghava Rao
Central Leather Research Institute
Chennai, India

PAST PRESIDENTS

G. A. KERR, W. H. TEAS, H. C. REED, J. H. YOCUM, F. H. SMALL, H. T. WILSON, J. H. RUSSELL, F. P. VEITCH, W. K. ALSOP, L. E. LEVI, C. R. OBERFELL, R. W. GRIFFITH, C. C. SMOOT, III, J. S. ROGERS, LLOYD BALDERSON, J. A. WILSON, R. W. FREY, G. D. McLAUGHLIN, FRED O'FLAHERTY, A. C. ORTHMANN, H. B. MERRILL, V. J. MLEINEK, J. H. HIGHBERGER, DEAN WILLIAMS, T. F. OBERLANDER, A. H. WINHEIM, R. M. KOPPENHOEFER, H. G. TURLEY, E. S. FLINN, E. B. THORSTENSEN, M. MAESER, R. G. HENRICH, R. STUBBINGS, D. MEO, Jr., R. M. LOLLAR, B. A. GROTA, M. H. BATTLES, J. NAGHSKI, T. C. THORSTENSEN, J. J. TANCOS, W. E. DOOLEY, J. M. CONSTANTIN, L. K. BARBER, J. J. TANCOS, W. C. PRENTISS, S. H. FEAIRHELLER, M. SIEGLER, F. H. RUTLAND, D. G. BAILEY, R. A. LAUNDER, B. D. MILLER, G. W. HANSON, D. G. MORRISON, R. F. WHITE, E. L. HURLow, M. M. TAYLOR, J. F. LEVY, D. T. DIDATO, R. HAMMOND, D. G. MORRISON, W. N. MULLINIX, D. C. SHELLY, W. N. MARMER, S. S. YANEK, D. LeBLANC, C. G. KEYSER, A. W. RHEIN, S. GILBERG

THE JOURNAL OF THE AMERICAN LEATHER CHEMISTS ASSOCIATION (USPS #019-334) is published monthly by The American Leather Chemists Association, 1314 50th Street, Suite 103, Lubbock, Texas 79412. Telephone (806)744-1798 Fax (806)744-1785. Single copy price: \$8.50 members, \$17.00 non-member. Subscriptions: \$175 for hard copy plus postage and handling of \$60 for domestic subscribers and \$70 for foreign subscribers; \$175 for ezine only; and \$195 for hard copy and ezine plus postage and handling of \$60 for domestic subscribers and \$70 for foreign subscribers.

Periodical Postage paid at Lubbock, Texas and additional mailing offices. Postmaster send change of addresses to The American Leather Chemists Association, 1314 50th Street, Suite 103, Lubbock, Texas 79412.

always INSPIRED by you

*Our products
are solutions*

*Giving your company a head start requires
unique, innovative products. Continuous improvement,
continuous imagination. In short: creative technical
solutions. Put Stahl's imaginative power
to work at your company.*



Future guaranteed

*Stahl has been building lasting,
sustainable relationships for 80 years now.
With you, we look forward to a healthy and profitable
future together. A proactive approach
to minimal environmental impact underlies
this commitment.*

Highly creative

*Inspiration. Fashion. Practical. Customised. Tailor-made.
Whether from our Milan design studio,
our Guangzhou technical centre or our local capabilities
and worldwide research, Stahl is on top of the
latest fashion trends (take a peek at our fashion forecast).
Stahl customers use our valuable services
to create their own opportunities.
Their success determines our success.*

*Want to
know more?*

www.stahl.com



A preservative for hides that are going places . . .



ProxelTM

ProxelTM Preservative is trademark of Arch Chemicals, Inc., a Lonza entity

Superior holding properties for hides going close to home or abroad. Averts red heat, hair slip, putrefactive odor and liquid exudation due to cellular breakdown.

Improved leather quality — optimal grain enamel, color uniformity, fullness and grain break

Applications: Raceway and Mixer Brine Curing. . . Fresh Hide Preservation. . . Cure Delay. . . Tannery Soak Waters.

The technical team **ARCH** and **CHEMTAN** will scientifically study your needs. Write or call **PROXEL**, c/o **CHEMTAN**.



CHEMTAN

CHEMTAN COMPANY, INC., BOX C, EXETER, NEW HAMPSHIRE 03833
TELEPHONE: 603-772-3741 FAX: 603-772-0796
WWW.CHEMTAN.COM

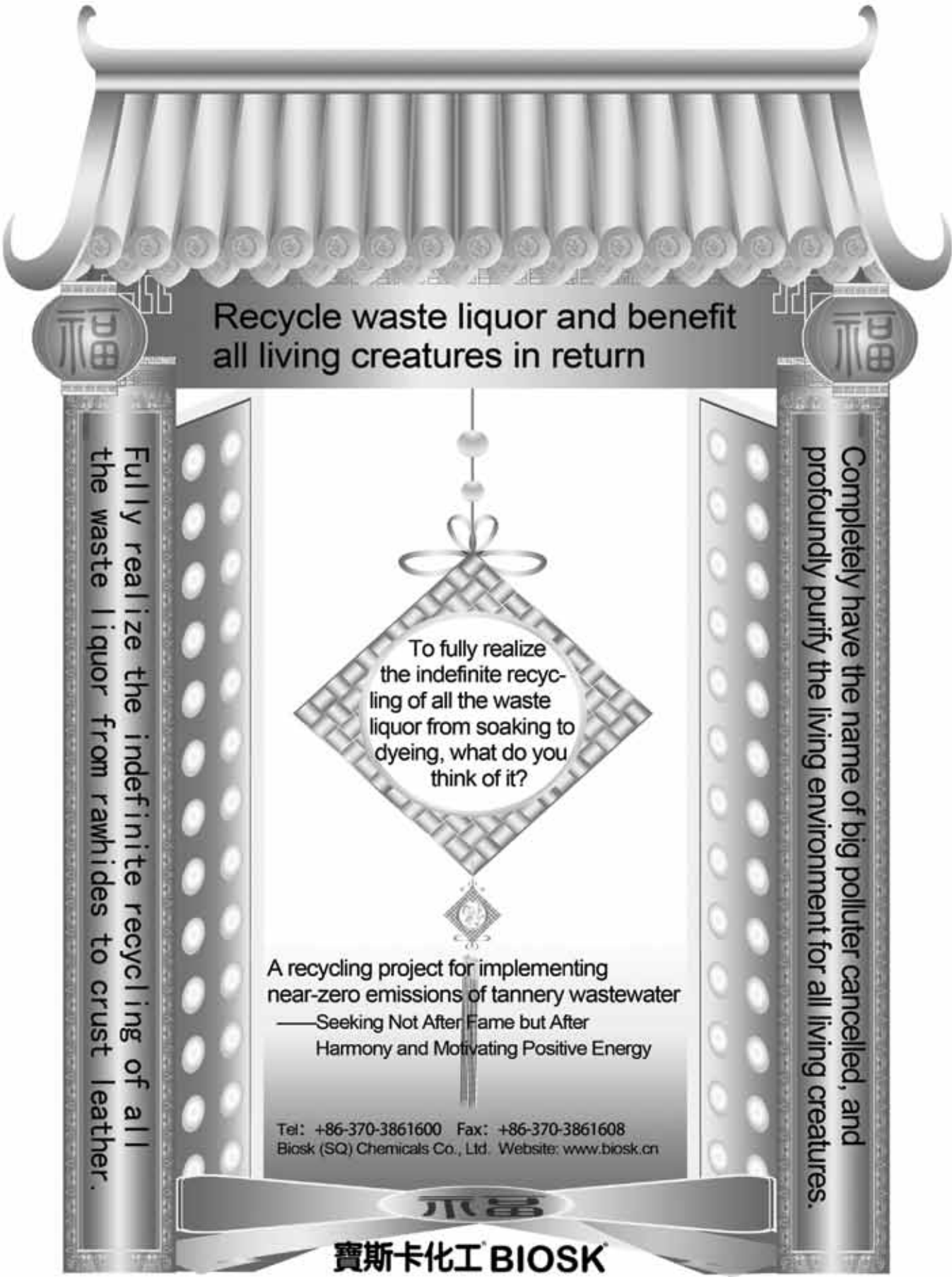


MODERN LIVING ENERGIZED BY

LANXESS
Energizing Chemistry

As a leading specialty chemicals company we provide the leather industry with technologies that give the best available sustainability profile. Our products are designed to gain higher yield and extended durability, and help to meet all required regulatory targets. With our initiative “Sustainable Leather Management” we go beyond just supplying quality products. For modern living. www.lanxessleather.com





Recycle waste liquor and benefit
all living creatures in return

Fully realize the indefinite recycling of all
the waste liquor from rawhides to crust leather.

Completely have the name of big polluter cancelled, and
profoundly purify the living environment for all living creatures.

To fully realize
the indefinite recycling
of all the waste
liquor from soaking to
dyeing, what do you
think of it?

A recycling project for implementing
near-zero emissions of tannery wastewater

— Seeking Not After Fame but After
Harmony and Motivating Positive Energy

Tel: +86-370-3861600 Fax: +86-370-3861608
Biosk (SQ) Chemicals Co., Ltd. Website: www.biosk.cn

寶斯卡化工 BIOSK

ELEMENTIS

Suppliers of Chrome Tanning
Chemicals and Other Leather Tanning
Products from Manufacturing Plants
in Milwaukee, Wisconsin; Amarillo,
Texas; and Dakota City, Nebraska.

Elementis LTP Inc.

546 S. Water Street
Milwaukee, WI 53204
Phone (414) 278-8844
Fax (414) 278-0848

Future Shock!

age	65
years worked	40
retirement benefits	<u>0</u>

Many of the 50 million Americans who are covered by private pension plans think they'll automatically qualify for benefits when they reach retirement age.

They're wrong!

Every plan has requirements that must be met under the Employee Retirement Income Security Act. And the time to find out about those requirements is now—even if retirement is 30 years down the road.

There's a lot more to think about too. Does your plan permit early retirement? How much will your plan pay you? Will you receive a monthly payment or a lump sum?

The U.S. Department of Labor has a free booklet that will help you answer these questions and a lot more. Send for it today.

Write: Pensions, Consumer Information Center
Pueblo, Colorado 81009

U.S. Department of Labor



Printed by this publication as a public service.

Few people realize that Leather Making is the world's oldest manufacturing process, thus the world's oldest industry. Tanning—the process of converting hides and skins into leather—is also the world's first science.

Also, because of the pure craftsmanship involved, tanning may well be the world's first art form.



Generations.
Let's make the next better.
It's your turn now.

Our **waterbased polyurethane technology** offers a safer, more environmentally friendly solution to your high-performance coatings requirements.
Contact us today for all the details.

UNION
Specialties, Inc.

In Union, there is strength.

Three Malcolm Hoyt Drive
Newburyport, Massachusetts 01950 • U.S.A.
Certified to ISO 9001:2008
(978) 465-1717 • Fax: (978) 465-4194
E-mail: union@unionspecialtiesinc.com
www.unionspecialtiesinc.com

Anyone who doubts that a sheepskin has up to 30,000 fibers per square inch has only to count them.

NOTHING TAKES THE PLACE OF LEATHER

INDEX TO ADVERTISERS

Buckman Laboratories	Inside Front Cover
Chemtan	III
Chemtan	Back Cover
Chemtan	Inside Back Cover
Donyon.....	V
Elementis.....	VI
Lanxess.....	IV
Stahl	II
Union Specialties, Inc.	VII

ZENITH 388



- ✓ **New-Generation Fungicide**
- ✓ **Better Fungicidal Efficacy**
- ✓ **Broader Spectrum of Activity**
- ✓ **More Eco-Friendly**
- ✓ **More People-Friendly**
- ✓ **More Cost-Effective**



U.S. Distributor
For more information: chemtan@chemtan.com



Website: www.zenith-industrial-chemicals.com
For more information: info@zenith-industrial-chemicals.com

CHEMTAN CELEBRATES


60

YEARS

1948-2008

Waterproof Technology

Chemtan® R-106
Chemtan® S-35

 **CHEMTAN**

Tel: (603) 772-3741
Fax: (603) 772-0796
www.CHEMTAN.com