Rendering Circles

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A newsletter produced by the Australian Renderers Association as a service to customers and members

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Markets are Under Pressure

MBM Exports

World markets for MBM are under extreme pressure from record supplies of US soybean meal. This has pushed soybean meal prices to an 11 year low and effectively capped the demand and price for Australian MBM in both domestic and export markets. The only relief has come from the lower A$ value but even that has been insufficient to counter the free-fall in soybean meal prices.

Even so, Australian exporters report steady sales to their more mature markets - Japan and to a lesser extent Taiwan and the Philippines. Small orders for Indonesia have also appeared recently - though only a fraction of earlier levels.

Competition from New Zealand will be less of an issue this year with drought forcing producers to reduce stock numbers. This will mean a smaller lamb turn-off while more normal pasture conditions in coming weeks could further reduce slaughter numbers as producers opt to rebuild breeding stocks.

Domestic MBM Sales Under Pressure

The domestic MBM market is under the same pressures from the US soy complex but is yet to feel the full impact of current price levels since most vegetable meal is purchased well forward.

Production is running smoothly on the strength of the northern kill and supplies will be boosted with the seasonal peak in southern Australia.

Demand from the poultry feed sector is being buoyed by the high numbers in the national egg-layer flock but there are calls for producers to reduce numbers to counter the twelve month production surplus and resultant lower prices.

Demand from the broiler sector remains strong but the pig industry has contracted sharply as producers react to reduced margins triggered by aggressive pig meat imports.

Tallow Looking Strong

Conditions in the tallow market contrasts strongly with MBM. Prices have come off 25% from the record levels seen earlier this year but demand remains strong and traders are confident prices will hold within a price band of $10 - $20 of current levels in the coming weeks.

The downturn in Asia has brought a change in market direction with more product now being placed in Pakistan, the Middle East and East African countries and less in traditional markets such as China and South Korea.

Production volumes from Australia have been good with the Queensland kill progressing smoothly and the southern peak about to commence.

The lower A$ has been an important factor in maintaining market share. US tallow producers are also looking hard for markets with good tonnages of tallow available.

New Members Always Welcome

The Australian Renderers Association welcomes interest from companies and individuals who share our interests and concerns for this vital industry. Inquiries should be directed to Graeme Banks (contact details above).

Our annual membership fee is $750 for Full Members and $650 for Associates.

IN THIS ISSUE

News From the Fats and Proteins Research Foundation

Contributed by Dr Gary G Pearl, President FPRF

New Projects

FPRF recently approved funding for the following proposals/pre proposals:

- **Baseline Study: Biosecurity of Rendered Animal Proteins:** This study is designed to address five major foodborne bacteria which have been identified as possible contaminants of animal carcasses or products. FPRF has responded to a FDA request for proposals in the area of food and feed safety.
- **Salmonella Survival in Animal Protein Ingredients**
- **Affect of Unhydrolysed Vegetable Sucrose Polyesteron Performance & Pigmentation in Broilers and Laying Hens**: This project is being extended to include swine, turkeys and feedlot cattle (see following item)
- **Proposed:** Evaluation of animal by-products in diets for young pigs with genetics for high lean growth capability in current production facilities. Swine production has changed dramatically in a very short time and past research is not always applicable to today's genetics and production regimes. Very little current research is available for performance expectations in which meat and carcass by products are titrated into the diets of swine during the various phases of their production cycle.

New Swine NRC Published:

The National Research Council (NRC) has revised its Nutritional Requirements of Swine which has served as a guide for establishing minimum nutritional requirements and nutrient specifications for the last fifty years. The swine update comes after a ten year interval from the last published reference. This edition however, addresses a modelling concept taking into account genotype, production conditions and performance. Animal protein and fat ingredients receive considerable updating, particularly in availability of amino acid and phosphorus sources. The changes are the direct result of FPRFs recent research in phosphorus bioavailability and ileal digestibility summaries and include specific reference to the work of the FPRF in providing source data.

Copy of the Tenth Revised Edition, *Nutrient Requirements of Swine* is available through National Academy Press, NW Locked Box 285, WASHINGTON DC 20055 (tel 0011 1 800 624 6242; fax 0015 1 202 334 2451).

Unhydrolyzed Vegetable Sucrose Polyester

In early 1996 the FDA approved a product called olestra which has been included in a variety of snack products even though it was under scrutiny for association with digestive disturbances and inhibition of fat soluble vitamins (A, D, E & K). The FDA requires supplemental vitamins to be added to olestra products

This phoney fat was endorsed (not unanimously) by the FDA Advisory Committee on 17 June.

Olestra is a synthetic fat composed of six to eight fatty acids attached to a sugar molecule. The new fat molecule resists gastric and intestinal enzymes and so can not be absorbed - allowing products with olestra to claim 'fat free' status, even though they may possess 50 – 60% of the calories of regular chip products. Proctor & Gamble which makes olestra (brand name Olean), estimate its usage in salty snacks may be in excess of 63,000 tonnes by 1999 and has an energetic production and marketing program planned.

FPRF will conduct multi-species research on the feeding value and health effects from Unhydrolyzed Vegetable Sucrose Polyester spent cooking oils and low calorie unsaleable products. Projects are being initiated in broiler and layer poultry and planned for feedlot cattle, swine and turkeys.

Feather Meals and MBM in Trout Feeds

(VIII International Symposium on Nutrition and Feeding of Fish, June 1-4 1998, Las Palmas de Gran Canaria, Spain).

The nutritive value of feather meals and MBM from North American renderers was examined in a series of digestibility and growth trials with rainbow trout.

The trials concluded North American feather meals and MBM appear to be fairly highly digestible and show good potential for use in salmonid feeds.

Apparent digestibility coefficients (ADC) were determined using the Guelph system. In the feather meals the ADC for protein ranged from 75% - 85% and for energy 76% - 80%. For MBM, protein ADC was 82% - 98% and energy 70% - 87%.

Three feather meals were used in a 20 week growth trial with 24 groups of rainbow trout reared at 8.5^{0}C. Eight diets were formulated to be isoproteic and isoenergetic on a digestibility basis (based on ADC for protein and energy = 75% for feather meals).

Replacing 15-16% of herring meal in the diet with feather meal was possible without effect on growth, feed efficiency, nitrogen or energy gains of the fish.

Three meat and bone meals (MBM) were used in a 12 week growth trial with 24 groups of rainbow trout reared at 15^{0}C. Increasing levels of MBM replaced herring meal in eight diets formulated to be isoproteic and isoenergetic on a digestibility basis (based on ADC for protein = 85% and ADC for energy = 70% for MBM). Up to 24% MBM could be incorporated in the diet without effect on growth and feed efficiency.

Election of ARA Office Bearers for 1998-99

The following members have been elected unopposed to ARA executive positions for for the coming year.

National President	Andy Bennett
National Vice President	John Aird
Directors (4)	Marcus Currie, Bob de Lange, Brad Christiansen, Kerry O'Connor
Auditor	Marie J Kirkman
COMMITTEES:	
Marketing/PR	B Christiansen, J Aird, C McDowell, B Forby, S Cooke
Technical/Environmental/R&D (former Technical, Environmental and R&D committees	K O'Connor, K Pratt, B Christiansen, W Spoonser, T Park, R de Lange, D Satchell, C Sutton, J Vick
Membership/Finance	M Currie, P Cuff, R Hathaway, S Cooke, W Horsell, K Landwehr, A Murrison
Symposium	A Bennett, J Aird, T Park, K Pratt, S Cooke, W Spooncer, K O'Connor, I Gourley, D Satchell, R de Lange, C McDowell, B Christianse, R Lyon

ARA Accreditation Course

The ARA Accreditation Course continues to attract strong interest with 26 people attending the course in late July. Congratulation to Shaun Crapp, Cargill Wagga, who achieved the highest result so far for this course.

A reminder that the next in this series, the 10th ARA Accreditation Workshop, will be held at the University of Western Sydney, 14-20 February, 1999.

Interested persons should contact Graeme Banks.

ARA Awards

The ARA is considering the introduction of a Travel Scholarship to recognise individuals who demonstrate significant achievements for the rendering industry or to assist individuals embarking on activities which would benefit the industry.

Your contributions regarding this proposal would be most welcome, including suggestions about likely sponsors.

Membership Increasing

The valuable role now being performed by the ARA is confirmed in increasing Membership figures which show a 50% rise since 1994.

Our most recent Executive meeting confirmed five new members, bringing the total to 91. As indicated in the item on page 1, we extend the offer of Membership or Associate Membership to all interested companies and individuals.

Environmental Code of Practice

The Western Australia Code of Practice is an excellent document but is not 'tight enough' as a Code and needs to incorporate appropriate outcome statements etc.

The Code developed for ARA needs to be:

- consistent with the existing Code of Practice for the Hygienic Rendering of Animal Products; and
- provide guidelines and to be cognisant of appropriate State Rules and Regulations.

The Committee proposed appointing a person experienced in the environment area to develop a draft code for the ARA. Expressions of interest will be sought from appropriate persons with indicative costs.

Comment will also be sought from relevant authorities, especially the WA Department on the use of elements of its code – and recommendations as to who could undertake such a task.

The MLA is to be advised with a view to seeking industry funding for this project.

ARA Technical Briefs

Salmonella Sampling:

THE ARA TECHNICAL/R&D COMMITTEE advise that AMT has raised some queries regarding the current timing procedures for daily/weekly testing and the consequences of positives being detected.

The Committee's decision and recommendations will be circulated to members under separate cover however in essence where a company has been on daily sampling based on positives found during weekly composite sampling, there is to be a reversion to weekly sampling once the daily sampling period has finished - with no carry over of 'positives' into the new period providing that no more than the last 4 days were shown to have 'positives'. Also if a company is undertaking both daily and weekly sampling/testing, the auditor will only consider the weekly results. Samples should, wherever possible, be taken from load out or as close thereto as possible - taking into account relevant safety considerations. It was stressed that members doing daily samples should also take/test weekly composite samples.

Free Fatty Acid Content – Animal Fats

FPRF has received many enquiries about the level of Free Fatty Acids (FFAs) in animal fats. Each feed category has been traditionally designated with a maximum FFA specification. The presence of FFA was once considered an indication of rancidity and questions regarding the utilisation of fat sources with high levels still linger. It is generally accepted that the Unsaturated to Saturated ratio (U:S ratio) is the primary factor which influences the metabolisable energy content of a fat supplement in poultry diets. This ratio is determined by including fatty acids contributed by the entire basal diet.
A study completed by Dr Park Waldroup at the University of Arkansas compared the feeding value of two blended animal-vegetable fats having different levels of FFA but similar fatty acid profiles and U:S ratios.

Corn oil and poultry oil both containing low levels of FFA were used as control plant and animal fat sources. There were no significant differences between the sources in performance.

A study and review by Dr Richard Zinn at the University of California similarly demonstrated that yellow grease with varying levels of FFA (15% vs 28.5% vs 42%) had little effect on performance when compared with the control non-fat supplemented treatment. FPRF has a project in progress in feedlot cattle with varying FFA treatments.

There are several indicators for the quality of fat such as moisture, impurities, unsaponifiables (MIU), the total fatty acid content, rancidity measurements and fatty acid content.

US Industrial Oils Use to Pass 2M. Tonnes

A new study by the Freedonia Group Inc, Celveland, OHIO, on the industrial use of fats and oils in the US has forecast a 2% annual increase through to 2001, taking the total market to 2 mill. tonnes. However, inedible tallow industrial usage is projected to decline 0.7% over this period. Coconut oil and inedible tallow are each projected to account for around 20% the US$1.2 billion industrial fats and oils market. Imports, mainly coconut and palm oils, will continue to account for approximately 30% of the market. A growth area for fats and oils is in the plastics and rubber product areas. These projections need to be taken seriously by our industry and appropriate research and promotion programs developed.

For Your Diary

1998

3-4 December	ARA Meeting, NSW (Venue to be confirmed)
20-23 October	Fats and Protein Research Foundation Annual Meeting Harvey Hotel Arving, TEXAS
18-21 November	NRA Annual Convention Breakers Resort, West Palm Beach FLORIDA

1999

14-20 February	10th ARA Accreditation Course University of Western Sydney (Contact Graeme Banks)
21-23 July	ARA 5th International Symposium Marriott, Surfers Paradise

BSE - the British Disease

Over 170,000 head of British cattle have died of BSE and this figure represents more than 99% of all cases reported throughout the world.

UK Begins BSE Offspring Cull

The UK has begun to cull all offspring of cows with known BSE, born after 1 August 1996. The cull commenced in August 1998 and is a key prerequisite to lifting the EC's ban on UK beef exports.

The recently appointed Minister for Agriculture, Food & Fisheries, Nick Brown, said getting British beef back in world markets was a top priority. The cull has begun on a voluntary basis and farmers will receive market value for animals which are being slaughtered at the expense of the government.

The cull will become mandatory once an agreement is reached on the Date-Based Export Scheme (DBES) in Brussels and UK regulatory powers take effect. Compensation for farmers during the mandatory cull will provide market value for the animals on the same basis as the voluntary cull.

Brown is reported as saying that protection of public health is a top priority with consumer interests at the heart of decision making within his department.

Successfully Managing the TSE Crisis - London Conference

The BSE outbreak in Britain and its possible links to Creutzfeldt-Jakob disease in humans continues as a major area of public and regulatory concern in Europe.

A conference in London earlier this year concluded there should be reason for optimism given the dramatic decrease in the incidence of BSE in cattle, and encouraging news that the new variant of CJD (nvCJD) has not assumed the gravity originally anticipated. That assessment is, however, at odds with the continuing public fixation on the myriad implications associated with TSE diseases.

How big a public health problem is nvCJD?
There is no consensus and the variable range estimates are broad. One study proposed the total number of cases might be as low as 75 or as high as 80,000. Only time will provide an answer.

The difficulty in inactivating TSE agents: Spongiform encephalopathy is not a universal feature of TSEs and there is histopathological evidence of neurodegeneration.

Applicability to the rendering industry: BSE and scrapie inactivation studies using spiked processed raw material of the infectious agents in pilot scale facsimiles of rendering production procedures for meat and bone meal (MBM) were conducted to determine 'infectivity' of the end products.

BSE infectivity was detectable in MBM produced by two types of procedure. In the scrapie experiments, infectivity was detected in MBM produced by all processes except those which involved the use of steam under pressure (133^{0}C @ 3 bars for 20 minutes), the method considered acceptable by the EU. However, it was postulated that even this method under worst case conditions may not be reliable.

FPRF Update: Preliminary Observations of the Pathogenesis of Experimental BSE.

Further preliminary observations are reported from an experiment to examine infectivity and occurrence of pathological changes in cattle exposed orally to infection with BSE. Calves were dosed at 4 months of age and clinically monitored groups were killed sequentially from two to 40 months after inoculation. Tissues were collected for bioassay, for histopathological examinations and for detection of PrP.

Previous reported observations have included the presence of infectivity in the distal ileum of cattle killed after six to 18 months, the earliest onset of clinical signs in an exposed animal after 35 months, and diagnostic histopathological changes in the brain, in association with clinical disease, after 36, 38 and 40 months.

In spite of the relative inefficiency of the bioassay of scrapie-like agents across a species barrier the new observations confirm that the onset of clinical signs and pathological changes in the central nervous system (CNS) occur at approximately the same time. The earliest pathological change, the presence of abnormal PrP 32 months after inoculation coincide with the earliest detected infectivity in the CNS and occurred shortly before there was evidence of typical spongiform changes in the brain 36 months after inoculation. Infectivity has now been demonstrated in the peripheral nervous system, in the cervical and dorsal root ganglia 32 to 40 months after inoculation and in the trigeminal ganglion 36 to 38 months after inoculation. At the time of writing evidence of infectivity in other tissues is confined to the distal ileum, not only after 6 to 18 months but also after 38 to 40 months but these findings may be supplemented by the results of further mouse assays. Never the less they are in general agreement with the current knowledge of the pathogenesis of scrapie.

ARA 5th International Symposium - Gold Coast 1999

Planning is well advanced for next year's symposium at the Gold Coast where the theme will be:

World Rendering Beyond 2000
Tools, Techniques and the Environment

Wednesday 21 July

Registration and cocktail party

ARA Proposed Environment Code of Practice & Environmental Regulations

Symposium Dinner

Thursday 22 July, 1999

MARKETING
(Session Chairman - Andy Bennett)

Opening and History of Australian Rendering
Global Marketing Challenge
Asian Marketing Perspective
Securing Market Access
Australia's *'clean and green'* marketing advantage
ARA – Leading the Way
International Forum

ENVIRONMENT
(Session Chairman - Bob de Lange)

Fingerprinting of Odours & Their Management
Waste Water - Sources & Solutions

Friday 23 July

PRODUCT INNOVATION
(Session Chairman - John Aird)

Protein Optimisation
Fractionation of Meats - Case Studies
Aquaculture - Rendered Products Utilisation
MLA – Co-products R & D
Feeding Fats
Soaps and Cosmetics

EQUIPMENT & INNOVATIONS
(Session Chairman - P Cuff)

Presentations by Sponsors
Summary and Close