

DEAR AVIAN PROFESSIONALS,



Welcome to another exciting issue of AviPro® News. The sixth issue is inaugurated by an article on the grand opening at our American site in Winslow, Maine. Next to the 50th anniversary of the company, the recent expansion of the facilities gave reason to celebrate (read more on pages 1 and 2). I would like to take this opportunity to congratulate everybody who helped in organising this successful event.

Amongst others the newsletter contains information on our mild Gumboro vaccine AviPro® VIBURSA L, a new vaccination control tool, the presentation of two new posters that are available from now on with our customer service as well as a question and answer session on REO virus with our senior veterinarian Dr Thijs van Dijk.

I hope you enjoy reading this issue!

Yours sincerely,

Anna-Christina Riebau

Product Manager

Technical Marketing Poultry Vaccines, Lohmann Animal Health GmbH & Co. KG

■ 50TH ANNIVERSARY AND EXPANSION OF FACILITIES IN MAINE

On 1 August, 131 persons gathered in Winslow Maine at the Lohmann Animal Health International avian vaccine laboratory to celebrate the firm's 50th anniversary and the recent expansion of its facilities. The purpose of this expansion is to allow continued production of vaccines, previously made at the Vineland New Jersey site, with spare storage capabilities to meet increasing market demand.



Markus Wesjohann officially opening the expansion buildings by cutting the red ribbon.

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50TH ANNIVERSARY AND EXPANSION OF FACILITIES IN MAINE

Three new production laboratories, expanded freeze-drying capability and doubling of bacterial antigen production will boost production capacity. A new 10,000-square-foot label/package/ship centre with refrigeration will allow rapid fulfilment of specially labelled avian vaccine orders to 45 international sites.

The new three-chamber hepa-filtered animal testing house, with multiple isolators in each chamber plus two large pen-type chicken houses, have boosted the company's live bird testing capacity.

Guests from North, South and Central America plus Europe attended the event. Speeches, lunch and tours of the new laboratories highlighted the celebration.



Dr Travis Cigainero.

Keynote speakers included Dr Travis Cigainero, Head of Health for Pilgrim's Pride Company, the world's largest broiler production company, who congratulated the company on its "poultry vaccines only" decision and stressed the importance of reliable and available vaccines for his firm's success. And, he

indicated that investment in R&D is required to continue to meet the needs of industry.

Mr Doug Metzger, Site Manager for Hyline International, the leading US table egg-layer breeder company, stressed the need for vaccine companies to remain tuned into the practical needs of the customer, as LAHI develops new vaccines.

Dr Kenneth Eskelund, founder of the USA firm, was in attendance and honoured at the event.

As a pre-event of the grand opening celebration, LAHI held a technical training session for its sales and technical support staff from Germany and the USA. The meeting was opened by two guest speakers Dr Charles Hofacre, who gave the group an insight on immunosuppressive disease and Dr Daral Jackwood, who spoke about molecular identification of IBD.

Next to this, several further topics like the field use of AviPro® VIBURSA CE, IBD progeny challenges, the runting-stunting syndrome and the water stabiliser AviBlue were discussed, supported by presentations from Dr Beatriz Cardoso, Dr Mariano Salem, Dr Iván Alvarado and Dr Michael Iburg (all LAH or LAHI Technical Support).



Attendees of the technical meeting in front of Kennebec Hall.

Events/visits

LOHMANN LIVE VACCINES IN NEW ZEALAND



Stock and supply of Lohmann's highly sophisticated products, among them, our live vaccines against *Salmonella Typhimurium*, Gumboro, Marek's disease and Chicken Anaemia is one of the roles of Pacificvet. An independent operator, Pacificvet was established in 1993 by Bruce Graham and Kent Deitemeyer, who have since become the market leaders in supply of vaccines and veterinary immunology products for the poultry industry in New Zealand and through the Pacific Islands.

The company has been working with some clients in one guise or another for up to 30

years. This all happens from a modest base in Christchurch, with just six other staff besides themselves.




The Pacificvet team.

With the help of veterinarian and general manager Julie Wagner, Pacificvet has also embarked on an outreach education programme designed to update the veterinary community and other client groups on principles of applied veterinary immunology and on the contribution of the poultry industry towards food safety, especially where *Salmonella* control is concerned.

Pacificvet's future growth continues to lie in prevention, not cure, and the focus stays on primary sector clients and updating their product range with new products aimed at preventive vet care.

Events/visits

WOLVES ON POULTRY VACCINES

 In order to catch up with European Union requirements for Salmonella control, Portuguese poultry producers have embraced AviPro® SALMONELLA VAC E and T as part of their programmes. Keeping up with the demand, Lohmann has concluded an agreement therefore with a new distributor, TLH, a new enterprise which will distribute the AviPro® range of poultry vaccines in Portugal with the help of two “lobos” (wolves): General Manager Luis Costa (left), who has been with LAH poultry vaccines for five years; and newly appointed veterinarian Luis Piçarra (right), as Technical Director. The “lobos” nickname comes from the fact that both are rugby players, having played for the Portuguese national team, known also as the “Wolves”. Costa has re-

tired from the sport, and Piçarra is currently the vice-captain of the brave squadron which, for the first time, represents the

country at the Rugby World Cup finals (France, September 2007). We will be cheering for them on both endeavours!



General Manager Luis Costa and veterinarian Luis Piçarra.

Events/visits

4TH TRADITIONAL LAH BROILER BREEDER DINNER



Matthew Ward, Steve Carlyle, David Hodson, Chris Durrant, Joe Lawson, Rob Harrison, Matthias Mangels, Daniel Dring, and Lindsay Broadbent (left to right).

 24 and 25 May, Lohmann Animal Health organised, for the 4th time, its breeder dinner and clay-pigeon shoot in Shropshire, central England. Matthias Mangels, LAH, opened the traditional dinner with a welcome speech to the highly interested audience, which represented approximately 80% of the UK broiler breeder industry.

The dinner was followed, on the next day, by a perfectly organised clay-pigeon shooting competition, which was only disturbed by the arrival of our UK agent for Lohmann vaccines, David Hodson, arousing the crowd as he drove in his vintage 1934 Alvis two-seater.

For those petrol-heads (“car enthusiasts”) the model is a 12/70 special with a 2.0-litre engine.

Events/visits

SEMINAR FOLLOWS SALMONELLA SCARE IN JORDAN



Following alarm caused by an outbreak of salmonella poisoning in Jordan, involving 300 people, the Jordanian Ministries of Agriculture and Health quickly organised a seminar in Amman for table-egg and broiler producers. The outbreak was put down to Salmonella Enteritidis following the consumption of home-made mayonnaise from local fast-food outlets.

Jordanian Minister of Agriculture, Mr Mustafa Gronfulla, who opened the event, emphasised the importance of measures needed to control Salmonella.

The main speaker was Dr Ioannis Mavromatis, Lohmann Animal Health's Area Sales Manager for the Middle East, who outlined the role of vaccination and drew attention to the control of salmonella in the UK, through the Lion Egg scheme, and



The identification of AviPro Salmonella vaccine strains and their discrimination from Salmonella field isolates is reliably done by using the AviPro® PLATE format.

in Cyprus. Both countries used AviPro® SALMONELLA VAC E and T and successfully achieved low and zero levels of salmonella in their layer flocks.

He pointed out that a simple test – the AviPro® PLATE test – could distinguish between vaccine and field strains of Salmonella, so did not interfere with monitoring programmes.

Such was the importance attached to this event, in addition to major poultry integrators, it was attended by ten veterinarians involved in zoonosis and veterinary services from the Ministry of Agriculture, Professor Kalel Shawbka from the University of Jordan and Dr Mohamed Al Nator from Jordan University of Science and Technology, as well as vets and advisers from the private sector.

Events/visits

MARKETING CONFERENCE 2007 AT GOLDEN HARVEST



Golden Harvest, LAH's distributor in Pakistan, held its 4th annual marketing conference from 25 to 27 July 2007 in Karachi. The conference was attended by 12 people including the Golden Harvest sales team and local distributors. Outstanding performances from the last year were rewarded and objectives and strategies for the next year were discussed. The Target Achievement Awards were given to the following distributors: Mr Taufiq Ahmed (sitting, 2nd from left), Mr Moazzam Farooq (sitting, 2nd from right) and Dr Hasan Javed (sitting, 3rd from right). Also, Mr Ijaz Anwer (standing, 2nd from left) from the sales team received the award. Next to that, technical presentations on the positioning of LAH's IBD vaccines and different vaccination techniques were given to the intrigued audience.





Products

REO VIRUS



Dr Thijs van Dijk.

1. Why do we use live vaccines for REO virus? Are they used just as a primer or do they protect vaccinated birds against symptoms?

Live REO vaccines can induce protection against symptoms in young birds, but only when there are no maternally derived antibodies (MDA) present to neutralise the vaccine. They will not be effective in young birds with MDA against REO. Early REO infections are the most dangerous ones. The most effective

protection against them is by inducing high levels of antibodies in the parent stock to protect the offspring by MDA. High antigen content inactivated REO vaccines are the most effective, inducing high titres in parent stock.

Priming such parent flocks with a live REO vaccine will further increase the effect of the inactivated REO vaccine. Individual and average titres are higher and more uniform. Most importantly, the percentage of breeder birds that has low or zero titres diminishes. This live priming of the young breeder birds can be done when MDA have waned (after approximately 6 weeks of age).

2. Malabsorption syndrome (MAS) is still a current problem in broiler flocks worldwide. Can it be minimised by REO virus vaccination of parent stock?

MAS is a complex of symptoms occurring when the intestines of the broiler are not able to absorb sufficient nutrients, resulting in deficiencies and growth retardation. Certain REO strains cause MAS-like symptoms. This does not mean that all MAS is caused by REO infections: any pathogen that disturbs the optimal balance in the intestinal flora can cause symptoms of MAS.

In cases of MAS caused by REO infections, REO vaccination of the parent stock is the most effective way of prevention.

3. Are different strains of REO virus responsible for different symptoms or syndromes on the infected birds? Why do some inactivated vaccines contain different REO virus strains?

REO virus isolates have been associated with a great variety of

symptoms. This has enabled the categorisation of REO-related infections into different syndromes, such as viral arthritis (VA), brittle bone syndrome, MAS, runting-stunting syndrome and helicopter disease. The S1133 (LvdHeijden) strain is reported to be isolated from a case of VA, while the 1733 strain from a case of classic MAS, and the 3005 from a case of brittle bone.

However, a REO isolate from one specific syndrome will not necessarily always cause similar symptoms. Neither is it possible to differentiate various isolates by current serological methods: the REO antibodies do not make a distinction. In fact, the immune system does not distinguish between the one and the other pathotype: antibodies induced by one isolate will protect equally against the other pathotypes.

Inclusion of isolates of two or more syndromes in a vaccine does not give a broader protection. Moreover, it would be unpractical to include isolates of all syndromes associated with REO virus infections.

However, including more antigen per dose can increase the immune response, measured in titres. A higher titre sometimes can induce a more effective protection, which in itself could induce a higher titre and a better protection.

4. What is the best possible method to monitor REO vaccination? Serology on parent stock or serology on day-old chicks?

There is a direct link between the antibody titres in the breeders and the protection in the offspring, as well as between the breeder titres and the breeder vaccination programme. Monitoring the breeder titres gives the most direct link to a successful vaccination. However, the broiler people may not have access to the breeder serological results. Testing the day-old chicks does give them derivative information on vaccination status of the breeders. Although the MDA titres in the offspring are directly related to the titres in the parents, there are several factors that can cause additional variation in the titres measured in the offspring, such as the age at moment of testing, the status of resorption of the yolk sac, and the quality of the hatch. Therefore, serology on the day-old chicks is more directly linked to the protective status of the chicks themselves, which is reflected by other factors than vaccination of the breeders alone.

Products

IMPROVEMENT OF VACCINATION CONTROL

For the last three decades, the number of human cases of salmonellosis in Europe have steadily increased. In consequence, health and agricultural authorities publicly recognised Salmonella Enteritidis and Salmonella Typhimurium as major pathogens of food-producing animals. In some countries of the EU, vaccination

against salmonella became mandatory as part of the strategy to fight salmonellae in poultry. The strategy of LAH focused on combining the increased efficacy of live vaccines and the ease of use afforded in mass medication, without jeopardising safety, of particular importance when dealing with zoonotic agents.

Products

IMPROVEMENT OF VACCINATION CONTROL

As Salmonella protection is of such great importance, special focus has to be put on vaccination procedure itself, and also on the control of the take of the vaccine by the birds.

Not only a producer of avian vaccines, Lohmann also has tools to ensure success of vaccination, identify the presence of the vaccine strain in the drinking water during vaccination, and also differentiate field salmonella strains from the vaccine strains.

Therefore LAH has already introduced two helpful vaccination control tools to the market. The water stabiliser AviBlue, which ensures maximum protection of the vaccines from unwanted or harmful conditions in the drinking water (chlorine, minerals, disinfectants) while the blue dye enables the vaccine-mixed water to be visualised, both for indicating that the vaccine solution comes out of the drinker lines and for tongue-staining the birds to assess vaccine coverage. The second tool is our patented AviPro® PLATE, which allows the easy and reliable differentiation of field and vaccine strains under laboratory conditions.

Now Lohmann is soon going to introduce a testing “chip”, which will be an extra aid on the verification of proper vaccination procedures. The actual brand name of this chip is Single Path Salmonella Test kit, basically designed for the food industry.



Left: positive control; right: negative control.

Technically, this is a so-called GLIA Test (Gold-Labelled Immuno Assay Test). It has all components brought onto one plastic carrier, and it starts immediately after adding a drop of water. One drop of water into the round hole at the lower end of the chip will slowly move through the filter

paper, activating the reagents. In case of the presence of salmonellae in the water, two red bars will appear in the upper window (C stands for control, T for test). If you have 2 bars visible, the water contains a minimum of 10⁵ Salmonella, and the one bar indicates that the test is working properly. In fact, to a certain extent, it very much works like a quick pregnancy test. The relevance of the 10⁵ value comes from the bacterial count needed per ml of drinking water to effectively immunise a bird. This simple, disposable chip was developed by Merck, and its accuracy and safety have been validated for the food industry and fulfils all their quality requirements. One test picks up any salmonellae, be it SE or ST.

PROTECTION OF NAIVE CHICKS WITH

AviPro® VIBURSA L



Thanks to the availability of mild Gumboro vaccine AviPro® VIBURSA L, the small but vibrant poultry industry of the Fiji Islands has been able to protect its naive commercial broilers against field challenges of Infectious Bursal Disease without causing any undesirable negative effects, as intense bursal damage or immunosuppression.

Why naive? Hatching eggs are imported into the Fiji Islands from parent breeders located in New Zealand. Being a Gumboro-free country, New Zealand refrains from vaccinating broiler breeders against this disease. The result is a general seronegative status for parent flocks, producing a progeny with virtually no maternally derived antibodies. These so-called naive chicks, for they have no passively transferred immunity, are hatched then in Fiji, where field challenges of Infectious Bursal Disease may cause infection early in their life. To face such challenge, the broiler chicks must therefore be immediately vaccinated against Gumboro, as early as possible, in the hatchery preferably. However, most commercially available intermediate

vaccines, if administered before 7–10 days of age, may cause a certain bursal damage and immunosuppression, an undesirable trait for reaching optimum economical performance. The mild character of AviPro® VIBURSA L comes in as a safe alternative to immunise the young unprotected birds and an excellent stimulator of active protection against Gumboro.

Bruce Graham, from LAH distributor Pacificvet, is glad to have the availability of this safe and efficacious mild vaccine, which is an important tool on the immunity build-up of chicks free from mater-

nally derived antibodies not only in Fiji, but also throughout other nations of the South Pacific Islands. Kent Deitemeyer, also from Pacificvet, understands that AviPro® VIBURSA L is an excellent product for day-of-age vaccination on an American-style serial dose programme for immediate protection of an expected percentage of the hatch with very low or no maternally derived antibodies. Still, on the case of naive chicks hatched in the South Pacific, Deitemeyer owes the feasibility of these commercial birds thanks to the mild and efficacious qualities of AviPro® VIBURSA L.



AviPro® VIBURSA L in Fiji, applied by spray vaccination in the hatchery.

Avian Professionals

NEW EXECUTIVE MANAGER OF PRODUCT QUALITY AT LAHI



Susanne Parr.



Susanne Parr has been hired as Executive Director of Product Quality for the LAHI facilities in Winslow, Maine. Ms Parr came to us from the German vaccine manufacturer IDT, where she was responsible for the production of viral vaccines. At LAHI she heads the Quality Assurance Team, which audits and oversees all making, testing and shipping of LAHI vaccines to assure full compliance with internal and external regulations. In addition, Ms Parr oversees sanitary personnel practices, including materials and staff flow into clean rooms, from class "D" to class "C" > "B" > "A" areas.

NEW PRODUCT MANAGER AT LAHI



Katrina Bragg.



Katrina Bragg has been appointed Product Manager for LAHI. A native of Sidney, in Maine, Ms Bragg graduated in Veterinary Technology from the University College in Bangor. Ms Bragg has worked since August 2005 at LAHI in Winslow. Coming from our registration department she will now strengthen the Planning Team by fulfilling the newly created position of Product Manager. She will be involved in the final product line choices, the submission of potential new vaccines to the upper management as well as the coordination of NAFTA marketing efforts.

NEW TECHNICAL SERVICE AND MARKETING MANAGER FOR LAH THAILAND



Thanakrid Lupanyalerd.



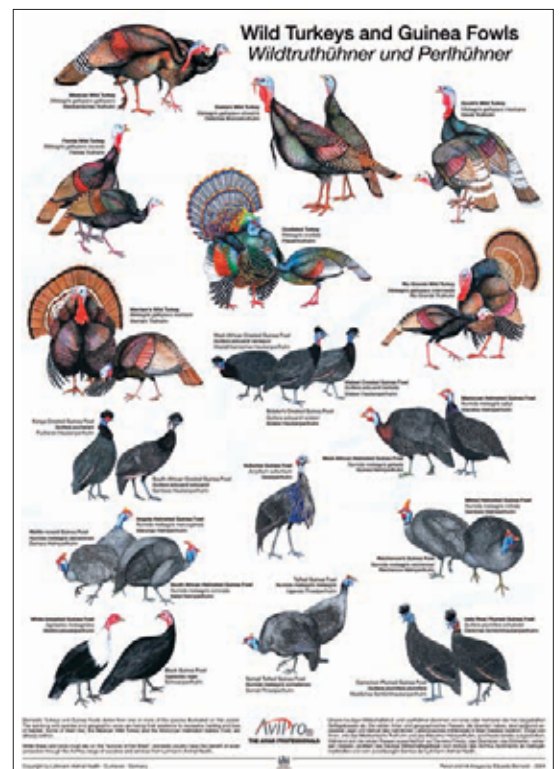
LAH recently hired Dr Thanakrid Lupanyalerd as Technical Service and Marketing Manager for the ASEAN countries. Based in Bangkok, Dr Thanakrid will provide technical service for our product range to all customers in the region. He will also be in charge of the organisation and supervision of all registration activities and the preparation of technical and scientific papers.

Dr Thanakrid holds a Ph.D. in veterinary science from the Nippon Veterinary & Animal Science University, as well as an MBA in general management from the Kasetsart University. His previous work experience includes a position as lecturer at the Mahanakorn University and a position as Regional Technical Manager for a well-known vaccine manufacturer.

What's new?

NEW WILD TURKEY AND GUINEA FOWL POSTER

After the tremendous success of the Wild Poultry Poster, showing the ancestry of today's commercial chicken, which was demanded and distributed all over the world, LAH, or more precisely our in-house artist Eduardo Bernardi, created a Wild Turkey and Guinea Fowl Poster with drawings of the ancestors and relatives of these species. The poster is available through our customer service department in Cuxhaven.



What's new?

LAH ENLARGES ITS RANGE OF NON-ENGLISH BROCHURES



Providing technically profound and helpful information material to our customers and business partners is one of the highest priorities of Lohmann Animal Health. Next to a variety of brochures, information sheets and presentations in English, we also want to offer a range of our most important materials in several other languages.

To the 11 product brochures already available in Spanish, LAH has now added a Spanish version of its new intermediate plus Gumboro vaccine AviPro® IBD XTREME. The brochure is currently available through customer service at Lohmann Animal Health in Cuxhaven.

Also, our first brochures in Arabic are now on hand. The brochures:

- Avipro® SALMONELLA VAC E
- Avipro® PRECISE
- Avipro® IBD XTREME
- Avipro® 401 ND-IB-IBD-REO

can be obtained in Arabic through our Area Sales Manager for the Middle East, Dr Ioannis Mavromatis.

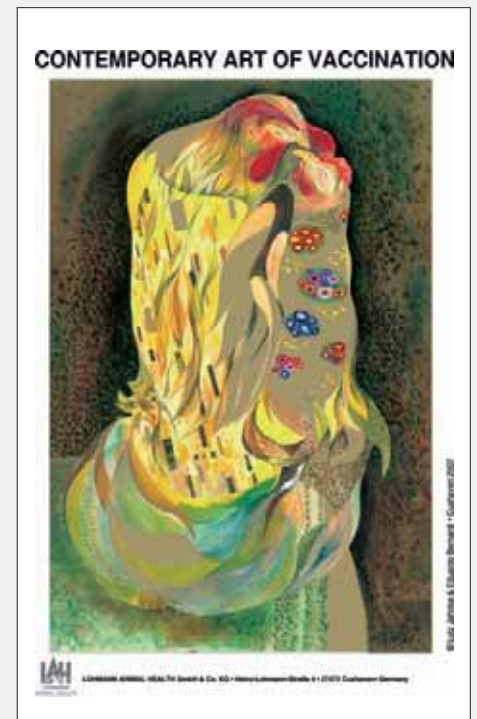
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What's new?

CONTEMPORARY ART SERIES CONTINUED



The Kiss by Eduardo Bernardi and Lutz Jahnke

The very popular poster series “contemporary art of vaccination” was recently extended. After the success of the Chagall poster, LAH added to its series a “chickenised” version of the art nouveau painting *The Kiss* by the Austrian painter Gustav Klimt. The sketch of the poster was created by Eduardo Bernardi and was finalised by Lutz Jahnke, a regional artist of Cuxhaven, specialised in iconic imagery and painting with gold. The poster is available through the customer service at Lohmann Animal Health in Cuxhaven.