President's Message
Darrel DeGroff, D.V.M.

Already it is the middle of August and by the time most of you receive this newsletter, your busy season may be winding down and your much anticipated summer vacation has come and gone in a flash! Why does the clock always run at double speed for those few days each year?

Certainly the approaching end of summer is at least being welcomed by many of us and our clients as we look forward to the possibilities that the drought of 2002 may end with fall rains and winter snow storms. As I visit with colleagues throughout the USA and Canada, I am constantly reminded how vast an area of both countries has been affected by drought or near drought conditions. Already there is speculation of $3.00 corn, $70/cwt feeder calves and $200 plus hay this fall coupled with the $11.00 milk prices now being experienced in the dairy sector. But, as we are all aware, agriculture is always a “next year will be better” industry, so hopefully, ample moisture in drought-stricken areas during the next six to eight months will at least mitigate a recovery and create a more optimistic attitude for our clients and hence, for our businesses.

continued on next page

2002 AETA Convention • October 9-12 • Albuquerque, New Mexico

The 2002 Convention of the American Embryo Transfer Association will be held at the Hilton Hotel in Albuquerque, New Mexico, October 9-12. Located in central New Mexico, Albuquerque is the largest city and the perfect location to experience the authentic Southwest. Nineteen Indian pueblos are within a day’s drive and Santa Fe, the oldest state capitol in the U.S., is an hour north of Albuquerque.

Albuquerque, a mecca of urban sophistication, is surrounded by spectacular beauty and it’s easy to get to no matter where you’re coming from. Albuquerque is less than an hour by air from Denver or Phoenix, two hours from Los Angeles or Dallas and about three hours from Chicago.

The complete program is contained in this issue of Closer Look.

Report from Government Liaison Committee

As many of you know, I attended a meeting with LEA and APHIS staff in Riverdale, Maryland, in July. It was a very, very productive meeting. Of course, the EU ban was high on the agenda. The AETA office sent a brief and optimistic report regarding that meeting. The ban will be lifted soon; the effective date will be three days after the new legislation is published. We had hoped that would occur before the European August vacation. That did not occur, but Dr. Dan Sheesley (APHIS, International Services, Regional Director in Brussels) is aggressively promoting the publication this month. I think that early September is a more realistic expectation. I hope I’m surprised. Thanks for your patience.

Dr. Sara Kaman is scheduled to attend our meeting in October. She is the Import/Export Technical Services coordinator for Europe, etc. and replaced Dr. Lisa Ferguson. We are also hoping to set up a teleconference with Dr. John Clifford and Dr: Gary Coigrove for a question and answer session. Stay tuned.

See you in Albuquerque!

Richard O. Whitaker, D.V.M., Chairman

As provided in an AETA mailing to all members on Friday, August 23, 2002, the EU embryo ban has been lifted.
President's Message (continued)

I have just recently returned from attending the Society for Theriogenology meeting held in Colorado Springs, CO, and for those of you who were unable to include the trip in your agenda, I strongly suggest you review the proceedings. Speakers included Drs. Mito Wilthank, Bill Thatcher, Matt Lucy, our own AETA representative, John Shull, John Spitzer and others who certainly gave practitioner oriented presentations on subjects we all use in our day to day ET practices. Of course many areas of reproduction were discussed but “synology,” Dr. Wilthank's new term, was certainly a hot subject considering the many protocols we now have available to us including the CIDR.

A few weeks ago, I talked with Dr. Roger Davis of Calgary, Alberta, our program co-chair of last year, about his recently discovered episode with cancer. A diagnosis of squamous cell carcinoma has been established with apparent confinement of the lesion to the lymph nodes located on one side of the mandibular region. The prognosis is very good, treatment has been organized and as those of us who know him, Roger's attitude is as expected – totally positive, charge-on, beat the enemy and get back to his plans with family, friends and cows! His surgery was scheduled for August 12 and I'm sure by now he would enjoy an occasional email or phone call while he recuperates.

In visiting with committee chairmen recently, I have found all to be working diligently and have either completed, or will soon have completed, their tasks for the 2001-2002 year. I have been asked by Dr. Linweaver of the Certification Committee to remind members to bring all the thawed embryo straws you may have accumulated through the year (examples of both proper and poor labeling requirements), so the committee can get an appraisal of the situation in our industry at the present. Also, Dr. Whitaker will be advising us as to the changes with the EU export situation and Dr. Rowe reports the 79 embryos and related supplies have been sent to China and will be transferred along with accompanying ET and dairy industry seminars at the four selected sites in early September.

As a follow-up to a previous newsletter article, I am pleased to report that Dr. Dale Lott tells me he is doing very well with his cancer treatment (his blood tests reports have been nearly perfect for two months) and has moved his family to Little Rock, Arkansas, for his anxiously awaited bone marrow transplant. The transplant is scheduled for September, providing he and his doctors can convince the AVMA insurance providers that his treatment is required, well-founded and not experimental – maybe they are confused with Dale being experimental from time to time. Isn't it always the case, though, that you pay the premiums (not a day late without a phone call from the company) but then when you need the coverage...! Our continued best wishes to Dale and family.

Our convention is rapidly approaching and Dr. Randall Hinshaw and his committee need to be commended on organizing a superb scientific agenda interspersed with fun-filled activities for all – who will be the first on a balloon ride? Dr. Dan Hornickel reports that he already has increased participation by exhibitors and I have checked out the hotel and I'm sure we will all enjoy the southwestern hospitality and comfortable facilities. Yes, Don, it really is as nice as you indicated! So make your plans early, urge a friend or colleague to attend also and I will look forward to seeing all of you in Albuquerque.

To Members of the American Embryo Transfer Association

We wish to extend our deepest thanks and appreciation for the kindness we have received from members of the A.E.T.A. The many cards and flowers and contributions to the memorial fund were a comfort at a very difficult time. Because of the generosity of so many, the fund is almost at the $10,000 level. The first scholarship should be given next year to a student at Colorado State in advanced bovine reproduction. We feel it is a wonderful way to remember George and to help with the profession that he loved so much. The friendship he had with so many of you over the years was something he valued a great deal. A special thanks to Don Ellerbee and Darrel DeGroftt for their help and support, to Don and Jan Weiler for receiving the funds at the A.E.T.A. office, and to Brad and Ruth Pedersen, among many others, for the enduring friendship.

Sincerely,
Kathy Holzer and Family

AETA Office E Mail
gmo@inebraska.com

Check Out the
AETA Home Page
www.aeta.org
2002 Convention Exhibitors
(as of 8/15/02)
Listed below are the companies who will be exhibiting at the 2002 Convention of the American Embryo Transfer Association in Albuquerque, New Mexico. Additional companies will be listed on the convention program.
AB Technology, Pullman, WA
Albion Advanced Nutrition, Clearfield, UT
Aloka, Wallingford, CT
Bionetics, Napa, CA
Bioniche Animal Health USA, Inc., Bogart, GA
Buchel Insurance LLC, Wauwatosa, WI
Calf-Alert, Acworth, GA
Classic Ultrasound Equipment, Tequesta, FL
Cyagra, Inc./Em Tran, Elizabethtown, PA
Diamondback Drugs, Scottsdale, AZ
Global Technologies & Development, Inc., Cameron, MO
ICPbio, Auckland, New Zealand
L M V. International Corp., Maple Grove, MN
Kane Enterprises, Inc., Sioux Falls, SD
Kinetics Thermal Systems, Stone Ridge, NY
Minutiae of America, Inc., Verona, WI
MJ Research, Wallingford, MA
Pharmacia Animal Health, Kalamazoo, MI
Professional Embryo Transfer Supply, Inc., Canton, TX
Reproduction Resources, Hebron, IL
Veterinary Concepts, Spring Valley, WI

Conventıon Certification
Committee Session
Dr. Joe Lineweaver, Chairman of the Certification Committee, would like to ask all members who will be attending the Certification Committee session on Saturday, October 12, from 3:30 p.m. - 4:30 p.m., to bring all the thawed embryo straws you may have accumulated throughout the year (examples of both proper and poor labeling requirements). The Certification Committee would like to get an appraisal of the situation in our industry at the present.

Predicted Increase in Equine Embryo Transfer
John F. Hasler, PhD
Embryo transfer in horses historically has represented a tiny fraction of the volume reported in cattle. In the census for the year 2000, members of the AETA reported recovering over 230,000 bovine embryos, compared to only 170 equine embryos. Part of this large difference may be attributable to underreporting by equine practitioners. Nevertheless, the number of equine embryos handled per year is relatively small. This is partly due to the seasonality of breeding in horses and the very poor response of the mare to super-ovulation. However, restrictive regulations by many horse breed associations have been a major obstacle to the growth of embryo transfer. Recent developments may lead to a significant increase in the demand for equine embryo transfer. The Quarter Horse breed represents the largest number of horses among the non-racing horse breeds. Annually, over 150,000 foals are registered, which is three times the number of Paints, the next most numerous breed. In 2000, the Quarter Horse and Paint breed associations approved the use of frozen semen. Previously, these two associations had only allowed the use of natural breeding or AI with cooled, transported semen. A more dramatic change brought about by a lawsuit filed by an association member, was approved by the American Quarter Horse Association in 2002. This change, known as Rule 212, allows the registry of an unlimited number of foals per year from a given mare. This undoubtedly will lead to an increase in the use of embryo transfer and the concomitant use of AI. Lastly, a third, recent change in the rules involving Quarter Horses permits the use of frozen semen from dead stallions.

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Balloon Festival

Near-perfect flying conditions make Albuquerque the “Balloon Capital of the World” and the site of the world’s largest ballooning event, the Kodak Albuquerque International Balloon Fiesta held in early October. Even during non-fiesta months, the early morning skies are frequently dotted with hot air balloons. Charter balloon rides can be arranged for an unforgettable experience any time of the year.
Don’t miss the AETA Presentation

Commercial Cloning:
The Process, Challenges and Future within the Embryo Transfer Industry
W. Boyd Henderson, VMD and Jennifer A. Miller, MS

MMMMM!
By George, I need to learn more about this cloning.

Servicing The Industry

You are invited to stop by the Cyagra booth for a visit while attending the AETA Convention. Bring your questions and learn more about our genetic preservation and cloning programs.

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Cyagra / Em Tran
Director of Marketing & Export
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717-314-2838 Cell
717-653-6554 Fax
smower@cyagra.com

W. Boyd Henderson, VMD
Cyagra / Em Tran
Em Tran General Manager
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emtran@desupernet.net

Ron Gillespie
Cyagra, Inc.
Vice-President Marketing
866-783-6226 Ext. 101
508-756-5319 Fax
rgillespie@cyagra.com
Comparison of Three Approaches for Synchronization of Ovulation for Timed Artificial Insemination in Bos Indicus-Influenced Cattle Managed on the Texas Gulf Coast

S.W. Williams, B.L. Stanko, M. Amstalden and G.L. Williams

Our objectives were to compare the relative efficacies of three protocols designed to synchronize ovulation for timed artificial insemination (AI) of predominantly Brahman-influenced cows and heifers. In Exp. 1, 1273 Brahman x Hereford (F₁) cows at three locations were stratified by BW, body condition score (BCS), age, and days postpartum and assigned randomly to three treatments: 1) Syncro-Mate-B (SMB), 2) norgestomet-prostaglandin (NP), and 3) Ovsynch. The management goal required that cows have a minimum BCS of 3 and be at least 36 d postpartum (PP) at treatment onset. However, final results included 23 cows (8.4%) whose BCS fell below 3. In Exp. 2, 286 pubertal beef heifers were stratified by BW and BCS and allocated randomly to the three treatments. Heifers were predominantly Brahman crossbred (n=265; Brahman x Hereford, F₁; Santa Cruz) or purebred Brahman-influenced (Santa Gertrudis) with a smaller number (n=21) of Hereford heifers also included. For both experiments, SMB treatment consisted of a 9-d norgestomet ear implant plus an estradiol valerate/norgestomet injection on d 0. Norgestomet-prostaglandin-treated females were implanted with an SMB implant without the estradiol valerate/norgestomet injection at the time of implant insertion and received 25 mg prostaglandin E₂ (PGF₂α) i.m. 2 d before implant removal. Ovsynch consisted of 100 μg GnRH i.m. on d 1, 25 mg PGF i.m. on d 8, and a second GnRH injection on d 10. Beginning on d 9, calves were removed for 48 h in Exp. 1. Cattle in SMB and NP groups in both experiments were timed-inseminated 48 to 54 h after implant removal and at 12 to 24 h after the second GnRH injection (Ovsynch). Timed AI conception rates did not differ between the SMB (45.1%) and Ovsynch (42.4%) groups; however, conception rate in the NP group tended (P<0.12) to be lower overall than in the other groups due to a reduced (P<0.05) conception rate in cows that were <6 d PP at treatment onset. Conversely, timed-AI conception was greatest (P<0.056).

Journal of Animal Science, May 2002
Vol. 80, No. 5, pp. 1173-1178

Update from Dr. Dale Lott

Hey friends, we are in Arkansas. The kids would rather be home in the country where they can be loud, run around outside and other reasons (Jacob would rather urinate outside, marking his territory, I guess). If you got some of this news in another e-mail, bear with me, I'm learning to use the address book.

I just got the results of all my tests...good news - my bone marrow is normal, blood and urine markers negative to only trace positive, MRI shows bones normal. Bad news... the sore in my mouth that blew up in the last two weeks is a tumor and there is a suspicious mass next to my adrenal gland (above the kidney). The stem cell transplant was being held up by the insurance company, but now it's put off for medical reasons. I'm back on chemo for 5 days, 24 hours a day, carrying around a bag with the juice and a little pump, pumping the stuff IV. Oh well, I can handle it.

If I've set this up right, I can send everybody news as it happens. I really appreciate what you all have done for us.

Thanks, Dale

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This report presents a summary of the embryo transfer activity in the year 2000 reported by the membership of the AETA. Inasmuch as the AETA is the representative organization of commercial ET activity in the United States and all certified companies are required to report their activity on an annual basis, this report is expected to give a good picture of the ET industry in the U.S.

The committee thanks the AETA Board for standing firm on the reporting requirement. And the committee thanks the membership for its cooperation. All certified companies completed their questionnaires and an additional 18 non-certified companies completed the survey as well. This high level of response creates a firm foundation for the report.

The committee would also like to recognize and thank the support at the AETA office (Jan Weiler in particular) and at Next Generation (Ruth Morgan in particular) for their thorough work in collecting and compiling the raw data.

**Commercial Bovine ET**

The picture of the business structure of the ETBs resulting from this year’s questionnaire differs little from the previous year. There are a few less part-time and a few more full-time ET practices; the largest shift occurred in the north central and south central regions. Again this year the ‘average’ ETB had just over one professional member per business and just under two support people.

There was a slight decrease in the total number of ETBs reporting to the committee; this is due to the retirement of several members. There was also a slight increase in the number of certified companies this year. It is important to note that the number of certified ETBs has increased for the past four years and that the percentage of certified ETBs within the AETA is very high at 86%; this indicates a high level of commitment and professionalism in this organization.

Despite the slight decrease in the number of reporting ETBs, there was an increase in the total number of recoveries over the previous year, with about 2000 more collections reported for 2001. Two-thirds of the increase occurred in the beef sector and the south central region. The south central region also reported the greatest increase in activity in dairy recoveries.

The total number of embryos collected increased by 6000. This is the fourth consecutive year of increased embryo production. The majority of the increased production was transferred fresh; the number of fresh transfers increased by 5000.

The number of embryos/recovery, transfers/recovery, and frozen/recovery remained about the same.

The vast majority of embryos frozen continue to be frozen in ethylene glycol. Although the total number of embryos frozen increased by 1000, the number of embryos frozen in glycerol decreased by 9000 and the number frozen in ethylene glycol increased by about 10,000. The percentage of embryos frozen in glycerol is now only about 20%.

The number of thaw-transfers moderated somewhat in 2001. In the year 2001, just over 85,000 thaw transfers were reported; this is down over 10,000 from the year 2000. It should be noted, however, that thaw-transfers in the year 2000 were up by an amazing 30,000 transfers over 1998 and 1999. The bottom line is that the thaw-transfers remain strong. Two-thirds of the embryos thawed were direct transfer embryos; there were a substantial number of glycerol embryos as well.

It is very interesting to note that the pregnancy rates reported for ethylene glycol frozen embryos were nearly identical with those reported for glycerol frozen embryos. And these numbers are even closer than those reported last year. The only exception, and this is true for both years, are the figures reported from the southwest region.

**Export**

There was a very slight decrease in the total number of embryos exported in 2001 and that decrease was primarily in the dairy sector.

It was interesting to note that the export numbers were so close, especially since the European Union ban on US embryo was in effect most of the final quarter of 2001. A closer examination of the data shows that the exports to the EU had decreased dramatically from 4112 in 2000 to 2637 in 2001. It is not possible to tell from the data how much, if any, the market had decreased prior to the ban.

The export numbers for the beef breeds were virtually identical to the previous year. Angus and Brangus continue to dominate the market. Brazil, Argentina and Australia are the top three importing countries.

And the Holsteins continue their overwhelming domination of the dairy exports. Nicaragua came out of nowhere to be the number one importing country in 2001. Japan and France were second and third. Exports to all EU countries were down.

**Other Species**

In addition to cattle embryo work, nine ETBs reported work with horses. A total of 410 recoveries resulted in 277 embryos transferred and a 58% pregnancy rate. There was no embryo freezing or thawing activity reported.

One ETB reported working with sheep. Fifty-three donors were collected and 210 embryos were transferred. There is no information on pregnancies, freezing or thawing activity.

And one ETB reported working with goats. Three hundred eighty-five donors were collected, 3764 embryos were transferred and 154 embryos were frozen. There was no data on pregnancies created.

**In Vitro ET Work**

Three ETBs reported involvement with IVF. There were 199 dairy recoveries and 685 beef recoveries, both substantially down from 2000. There were 4986 viable oocytes recovered and 452 transfers. Only 35 in vitro embryos were reported frozen. These numbers demonstrate a continued downward trend in the IVF sector.

Four ETBs reported some degree of involvement with cloning, roughly half commercial and half research. Any information beyond that was considered confidential.

continued on next page
## Convention Program

### WEDNESDAY, OCTOBER 9, 2002

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>2:00 P.M. - 5:00 P.M.</td>
<td>Certification Examination</td>
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<td>4:30 P.M.</td>
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### THURSDAY, OCTOBER 10, 2002

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30 A.M.</td>
<td>Golf Tournament – Isleta Eagle Golf Course</td>
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<tr>
<td>11:00 A.M. - 5:00 P.M.</td>
<td>Registration (tent and BBQ Dinner)</td>
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<tr>
<td>1:00 P.M. - 5:00 P.M.</td>
<td>Bovine ET “101” Seminar • Dr. Edwin Robertson • Harrogate Genetics Int'l., Inc. • Harrogate, TN</td>
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<tr>
<td>1:00 P.M. - 5:00 P.M.</td>
<td>Equine ET “101” Seminar • Dr. Dirk Vanderwall • University of Idaho • Moscow, ID</td>
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<tr>
<td>2:00 P.M.</td>
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<tr>
<td>5:00 P.M.</td>
<td>Albuquerque Balloon Festival &amp; Fireworks Show</td>
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<td>Event tent and BBQ Dinner</td>
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<td>Sponsored by AB Technology and Bioniche, Assisted by Reproduction Resources</td>
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<td>Limited to 180. Registered members and a companion. Children are welcome but please inquire first about space.</td>
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<td>Registered exhibit representatives may attend if space permits.</td>
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### FRIDAY, OCTOBER 11, 2002

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:00 A.M. - 5:00 P.M.</td>
<td>Registration</td>
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<tr>
<td>7:00 A.M. - 7:45 A.M.</td>
<td>Continental Breakfast – Exhibit Area • Sponsored by Professional Embryo Transfer Supply, Inc.</td>
</tr>
<tr>
<td>7:45 A.M. - 7:50 A.M.</td>
<td>Welcome and Announcements • Dr. Darrel DeGroff, AETA President</td>
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<tr>
<td>7:50 A.M. - 8:00 A.M.</td>
<td>Introduction of Exhibitors • Dr. Dan Hornickel, Exhibit Chairman</td>
</tr>
<tr>
<td>8:00 A.M. - 9:00 A.M.</td>
<td>Recent Information on Regulation of Follicular Development • Dr. Milo Wiltbank • University of Wisconsin-Madison • Madison, WI</td>
</tr>
<tr>
<td>9:00 A.M. - 10:00 A.M.</td>
<td>Estrogen Esters to Synchronize Follicular Wave Emergence and Ovulation in CIDR-Treated Cattle • Dr. Reuben Mapleton • Western College of Veterinary Medicine • Saskatoon, Sask., Canada</td>
</tr>
<tr>
<td>10:00 A.M. - 10:30 A.M.</td>
<td>Coffee Break – Exhibit Area • Sponsored by Minitube of America, Inc.</td>
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<tr>
<td>10:30 A.M. - 11:30 A.M.</td>
<td>Practical Approaches to Estrus Synchronization and Superovulation: An Interactive Discussion • Dr. Rueben Mapleton and Dr. Milo Wiltbank</td>
</tr>
<tr>
<td>11:30 A.M. - 12:30 A.M.</td>
<td>AETA Annual Business Meeting • President Darrel DeGroff presiding</td>
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<td>12:30 P.M. - 2:00 P.M.</td>
<td>Lunch</td>
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<td>2:00 P.M. - 2:30 P.M.</td>
<td>USDA/APHIS Update</td>
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<th>Time</th>
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<tr>
<td>2:30 P.M. - 3:00 P.M.</td>
<td>Recent Advances with Embryo Transfer Media &amp; Related Technologies</td>
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<td>A review of recent developments will be discussed and data will be presented from several major species in the areas of embryo holding/transport, cryopreservation, and culture media. Included will be relevant in vitro studies on embryo metabolism and new technologies, such as micro-fluidic culture devices, as they relate to both new research strategies and commercial production scenarios, such as IVF and somatic cell cloning.</td>
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<td>Dr. Brad R. Lindsey • Minitube of America • Verona, WI</td>
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<tr>
<td>3:00 P.M. - 3:30 P.M.</td>
<td>Coffee Break – Exhibit Area</td>
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<tr>
<td>3:30 P.M. - 4:00 P.M.</td>
<td>Practice Tips</td>
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<tr>
<td>4:00 P.M. - 5:00 P.M.</td>
<td>Proteins in Semen as Markers for Fertility</td>
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<td>Males with identical physical characteristics among semen samples still can vary widely in actual fertility in natural mating situations or artificial insemination. Therefore, research efforts have centered on identifying specific seminal components that can serve as markers for fertility potential. Presence of individual proteins or ratios of combinations of proteins have proved valuable to biomedical diagnostics. Four specific proteins found in bovine semen that reflect fertility potential include osteopontin (OPN), a lipocalin-type prostaglandin D (PGD) synthase, fertility-associated antigen (FAA) and type-2 tissue inhibitor of metalloproteases (TIMP-2). Utility of testing for these proteins will be discussed.</td>
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<td>Dr. Roy Ax • University of Arizona • Tucson, AZ</td>
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<tr>
<td>6:00 P.M. - 7:00 P.M.</td>
<td>Social Hour – Exhibit Area</td>
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<tr>
<td>7:00 P.M.</td>
<td>Annual Banquet</td>
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</table>
7:00 A.M. – 1:30 P.M.  Registration
7:00 A.M. – 8:00 A.M.  Continental Breakfast – Exhibit Area
8:00 A.M. – 9:00 A.M.  Genetic Markers to Predict Fertility

Four proteins which are components of semen can be analyzed separately or in combination to predict fertility of bulls. Those proteins are osteopontin (OPN), a lipocalin-type prostaglandin D (PGD) synthase, fertility-associated antigen (FAA) and type-2 tissue inhibitor of metalloproteinases (TIMP-2). Subtle mutations in the gene for a particular protein may alter the conformation or half-life of the secreted product, leading to a change in how that protein interacts with sperm to modify function. Single nucleotide polymorphisms (SNPs) in genes are becoming powerful diagnostic tools. As an example, within the FAA gene, SNPs have been identified that cause a conformational change in the carboxyl terminus of the protein. That change does not allow a monoclonal antibody to recognize the aberrant FAA, so bulls are categorized as FAA-negative. In the near future, SNP identification will allow screening of fertility potential of bulls at a day of age, rather than waiting until after puberty to collect semen. Additionally, heifers and cows could be screened for higher fertility genotypes. Responses of embryo transfer donors and recipients may be predicted based upon desirable SNPs for these proteins, cellular modulators or gonadotropin receptors.

Dr. Roy Ax • University of Arizona

9:00 A.M. – 10:00 A.M.  Johne’s Disease: Test Strategies and Impact on the Embryo Transfer Industry
Johne’s disease is rapidly becoming the major disease of the cattle industry with an estimated more than 40% of the dairy herds infected. Several strategic approaches to the diagnosis of Johne’s disease will be discussed including: the role of ELISA testing, the utility of the milk ELISA, fecal culture techniques, Gamma Interferon, PCR and culture and histopathology of tissues obtained at slaughter. Different diagnostic needs require different testing strategies. Testing for JD in an embryo recipient is very different than testing for JD in an animal with clinical signs of weight loss and diarrhea. Are embryos from JD infected cattle contaminated with Mycobacterium paratuberculosis? Should veterinarians encourage herds to participate in the National Johne’s Status Program? These and other questions will be addressed.

Dr. Robert Whitlock • University of Pennsylvania • New Bolton Center • Kennett Square, PA

10:00 A.M. – 10:30 A.M.  Coffee Break – Exhibit Area

10:30 A.M. – 11:00 A.M.  BLV: Implications and Complications for the Cattle Industry
The various clinical presentations of bovine lymphosarcoma and the impact of rectal examination on the transmission of BLV will be reviewed. With more and more countries refusing to accept imported BLV positive cattle, USA veterinarians need to be fully informed about how BLV is spread among cattle and the use and mis-use of diagnostic tests for BLV. These and other issues will be discussed.

Dr. Robert Whitlock

11:00 A.M. – 12:00 Noon  Retirement Planning/Tax Issues
Craig Brimhall • American Express Financial Advisors

1:30 P.M. – 2:30 P.M.  Commercial Cloning: The Process, Challenges and Its Future with the Embryo Transfer Industry
Presentation will consist of an overview of the nuclear transfer process starting with genetic preservation and concluding with the day 7 cloned embryo. In addition, challenges in successfully making pregnancies and delivering live calves will be discussed. A vision of cloning’s future and its place in the embryo transfer industry will also be presented.

Dr. W. Boyd Henderson, General Manager • Cyagra/EmTran • Elizabethtown, PA
Jennifer Miller, Embryologist • Cyagra/EmTran • Elizabethtown, PA

2:30 P.M. – 3:00 P.M.  Practice Tips

3:00 P.M. – 3:30 P.M.  Coffee Break

3:30 P.M. – 4:30 P.M.  Certification Committee – All Certified Companies – Attendance Required

4:30 P.M. – 5:00 P.M.  Survey Discussion
Dr. Scott Armbrust • Paradocs Embryo Transfer • Green Bay, WI

5:00 P.M.  Adjournment of Convention
The above complimentary airport shuttle voucher is being provided to members of the American Embryo Transfer Association for our October 8-13, 2002 Convention in Albuquerque, New Mexico, by the Hilton Hotel.

It is required that you call the day before, or even earlier, to schedule your return to the airport. Call (505) 765-1234.

Don't forget to bring this voucher with you to the meeting!!!

(Each individual will need a voucher. If necessary, make photo copies.)
### Table 1: 2000 AETA “In Vivo” Embryo Transfer

<table>
<thead>
<tr>
<th></th>
<th>North Total</th>
<th>South Total</th>
<th>North Central</th>
<th>South Central</th>
<th>North West</th>
<th>South West</th>
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</thead>
<tbody>
<tr>
<td>ET Business, No.</td>
<td>129</td>
<td>27</td>
<td>21</td>
<td>35</td>
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<tr>
<td>Certified ETB, No.</td>
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<td>17</td>
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<tr>
<td>Recoveries, Dairy</td>
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<td>6,419</td>
<td>1,346</td>
<td>5,352</td>
<td>658</td>
<td>813</td>
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<td>Recoveries, Beef</td>
<td>24,161</td>
<td>1,584</td>
<td>5,247</td>
<td>6,804</td>
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<tr>
<td>Total Recoveries</td>
<td>39,728</td>
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<td>6,593</td>
<td>12,156</td>
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<td>Total Recoveries per ETB, Mean</td>
<td>308</td>
<td>296</td>
<td>314</td>
<td>347</td>
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<tr>
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<td>Fresh Transfers</td>
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<td>Fresh Transfers per Recovery</td>
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<td>Pregnancy Rate, Fresh Transfers</td>
<td>63.16</td>
<td>61.54</td>
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<td>Embryos Frozen in Glycerol</td>
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<td>Embryos Frozen, Total</td>
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<td>Embryos Frozen, per Recovery</td>
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<tr>
<td>Pregnancy Rate, EG Thawed</td>
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<td>Embryos Sexed</td>
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<th>ETBs That Provide Recipients</th>
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<td>7</td>
<td>13</td>
<td>5</td>
</tr>
</tbody>
</table>

### Table 2: Embryos Exported by Country and Breed, 2001

| Country              | HO | JE | BS | GU | AY | AN | AR | BN | BR | BU | BZ | GV | HP | KB | LM | LO | MG | SE | SH | SS | TL |
|----------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Argentina            | 1,673 | 57 | 13 | 792 | 152 | 450 | 175 | 5 | 29 |     |     |     |     |     |     |     |     |     |     |     |
| Australia            | 1,290 | 25 | 67 | 26 | 730 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Austria              | 14 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Belgium              | 31 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Bolivia              | 609 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Brazil               | 4,156 | 502 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Canada               | 540 | 351 | 31 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| China                | 374 | 118 | 118 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Columbia             | 539 | 180 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Costa Rica           | 81 | 12 | 19 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Czech Rep            | 369 | 359 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| England              | 691 | 643 | 43 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ecuador              | 42 | 21 | 21 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| France               | 865 | 855 | 10 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Germany              | 434 | 388 | 66 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ireland              | 37 | 37 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Italy                | 72 | 65 | 7 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Japan                | 1,196 | 1,054 | 8 | 39 | 5 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Mexico               | 524 | 174 | 400 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Netherlands          | 433 | 427 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| New Zealand          | 18 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Nicaragua            | 1,439 | 1,430 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Panama               | 20 |     | 20 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Poland               | 252 | 252 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Romania              | 43 | 36 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Spain                | 60 | 60 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Switzerland          | 100 | 56 | 42 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Taiwan               | 44 | 44 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Uruguay              | 361 |     |     | 112 | 234 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Venezuela            | 11 |     |     | 11 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Unknown              | 47 | 47 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| **Total**            | 15,348 | 7,171 | 319 | 267 | 5 | 2,053 | 2,924 | 8,465 | 1,12 | 630 | 26 | 36 | 200 | 385 | 129 | 7 | 45 | 462 | 30 | 9 | 8 |

**Beef:** 8,581  
**Dairy:** 7,767  
**EU:** 2,637 (4,112 exported in 2000)
SPOUSE TOUR

A special spouse tour is planned for Friday, October 11, and will feature the Turquoise Museum, Old Town and the Indian Pueblo Cultural Center. You will leave the Hilton Hotel at 10:00 A.M. and return at 3:00 P.M. The tour fee includes admission to the Turquoise Museum and Indian Pueblo Cultural Center but does not include lunch.

You will have the opportunity to learn a little bit more about one of the world’s favorite gems, turquoise. At the Turquoise Museum, you will discover the difference between handmade and handcrafted jewelry, while being surrounded with one-of-a-kind turquoise specimens from over fifty mines. Entering the museum, you pass through “Zack’s mine tunnel,” a mine replica, where you view turquoise formed in rocks. Four continents and six countries are represented in a spectacular, private display of turquoise.

After you visit the Turquoise Museum, you will board the coach for the short trip to historic Old Town. A brief walking tour will introduce you to this beautiful plaza. You will have lunch on your own and there will be time to shop and explore. You can enjoy the boutiques and galleries, or take in the wonderful Albuquerque Museum, with historical exhibits about the “Four Centuries of Albuquerque.”

Then it is time to board the coach for your last stop, the Indian Pueblo Cultural Center. This Cultural Center represents the 19 Pueblo Indian Tribes of New Mexico. Enjoy a visit through the museum and then marvel at the beautiful Native American arts, crafts, jewelry, paintings and pottery in the galleries and gift shops. There will be Native American dancers performing so don’t forget your camera.

You will return to the Hilton Hotel by 3:00 P.M.

Cost is $29.00 for adults and children under 12 $26.00. We must have a minimum of 35.

EXHIBIT HOURS

You will want to make visiting the exhibits an important part of the Convention. Remember to thank all exhibitors and Convention sponsors for their participation and generous support of the Convention.

THURSDAY, OCTOBER 10, 2002
2:00 P.M. Exhibits Open

FRIDAY, OCTOBER 11, 2002
7:00 A.M. - 7:45 A.M. Continental Breakfast – Exhibit Area
10:00 A.M. - 10:30 A.M. Coffee Break – Exhibit Area
3:00 P.M. - 3:30 P.M. Coffee Break – Exhibit Area
6:00 P.M. - 7:00 P.M. Social Hour – Exhibit Area

SATURDAY, OCTOBER 12, 2002
7:00 A.M. - 8:00 A.M. Continental Breakfast – Exhibit Area
10:00 A.M. - 10:30 A.M. Coffee Break – Exhibit Area

CONTINENTAL BREAKFAST FOR SPOUSES

A Continental Breakfast for spouses will be held on Friday and Saturday mornings from 8:30 A.M. - 9:30 A.M.

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Trade Leads

Name: Aldo Ferronato
Company Name: Faz. Berno D'Agua
Address: F. Amaurin - 40
Second Address: Sao Paulo
Country: Brazil
Phone: 55-011-3063-0577
Fax: 55-011-3082-0005
E-Mail: ferronato@stl.com.br

Interest: Interested in Simbrah semen and embryos and genetic improvement

Name: Alexandre Corredor Wiz Ferrooz
Company Name: Fazenda Andreia E Fazenda Santa Flomena
Address: Caixa Postal 69 - Jacupiranga
Second Address: Sao Paulo, CEP 11910-000
Country: Brazil
Phone: 0139777-9821
E-Mail: farm.andreia@vol.com.br

Semen: Yes
Embryos: Yes
Breed: Simmental
Interest: Improve my cattle, find partners, develop technology in my farm and promote the technology (400 Nellore and 6 pure bull Nellore and 1 bull Cachoeira). Farm capacity 2,000 head

Name: Dr. Alberto Carlos Sanchez
Company Name: Instituto de Cardiologia do ABC S/C Ltda.
Address: Av. Faria Lima 1898, or Ave. Goias
Second Address: Sao Bernardo do Campo - S. Caetano do Sol
Country: Brazil
Phone: (55) 11-4339-1090
Fax: (55) 11-4339-2382

Embryos: Yes
Specie: Beef Cattle
Semen: Yes
Embryos: Yes
Interest: Dr. Sanchez has purchased semen and embryos from U.S. companies in Brazil. He now is interested in importing directly from U.S. suppliers. Good contact.

Effect of Season and Exposure to Heat Stress on Oocyte Competence in Holstein Cows

Y.M. Al-Katanani, F.F. Paula-Lopes and P.J. Hansen

Two experiments were conducted to evaluate seasonal variation in oocyte competence in Holstein cows and to test whether oocyte quality in summer is affected by the magnitude of heat stress. In the first experiment, ovaries of Holstein cows were collected from a slaughterhouse and used to harvest oocytes over 1 yr (n=18 replicates). After in vitro maturation, fertilization and culture, proportions of oocytes and cleaved embryos that developed to blastocysts by d 8 were lower in the warm season compared with the cool season. In the second experiment, nonlactating Holstein cows were housed in one of the following three environments for 42 d before slaughter: heat stressed (housed with shade cloth in summer; n=14); cooled (housed in a free-stall barn with foggers and fans in summer; n=14); and winter (housed similar to the heat-stressed group; n=12). Cows were slaughtered at d 18 to 19 of the estrous cycle. Oocytes from the two largest follicles per cow were aspirated and cultured individually. Ovaries were then dissected to collect additional oocytes that were processed in a group for in vitro maturation, fertilization and culture. Cleavage rates were similar among treatments, but none of the individually cultured oocytes developed to blastocysts. For other oocytes cultured in groups, proportions of oocytes and cleaved embryos that developed to blastocysts by d 8 were lower in summer than winter with no difference between the heat-stressed and the cooled treatment groups. Summer depression in oocyte quality in Holstein cows was evident, but cooling cows for 42 d did not alleviate that seasonal effect.

Melengestrol Acetate Blocks the Preovulatory Surge of Luteinizing Hormone, the Expression of Behavioral Estrus and Ovulation in Beef Heifers

D.B. Inwalle, D.L. Fernandez and K.K. Schillo

We tested the hypothesis that melengestrol acetate (MGA), an orally active progesterin, blocks estrus and the preovulatory surge of luteinizing hormone (LH) in beef heifers. Cycling yearling Angus heifers were divided randomly into two groups: MGA-treated (n=6) and control (n=5). All heifers received injections of prostaglandin F2 alpha (PGF2α) on d -25, -11, and 0 to synchronize estrus. Following the last PGF injection on d 0, heifers were fed either 0.5 mg MGA in a carrier or the MGA carrier each day for 8 d. At 4-h intervals on d 1 through 6, all heifers were observed for expression of estrous behavior, and blood samples were collected and assayed for LH. Daily blood samples were collected at 0800 on d 1 through 10 and assayed for circulating progesterone concentrations. All control heifers exhibited estrus and a preovulatory surge of LH. In each case, this was followed by increases in circulating concentrations of progesterone indicative of ovulation and normal luteal function. In contrast, none of the MGA-treated heifers exhibited estrus, LH surges, or evidence of ovulation. The results of this experiment show that MGA prevents ovulation in cattle by inhibiting the preovulatory surge of LH.

Journal of Animal Science, May 2002
Vol. 80, No. 5, pp. 1280-1284

Journal of Dairy Science, February 2002
Vol. 85, No. 2, pp. 390-396
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ViGro One Step Thaw Plus

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