AETE
Association Européenne de Transfert Embryonnaire
European Embryo Transfer Association

December 2012 A.E.T.E. NEWSLETTER N°38 Editor: Dimitrios Rizos

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President's letter

Dear Colleagues, dear friends,

It is an honor and a great pleasure for me to write to you as the new President of the AETE. Since I attended my first AETE meeting in Lyon in 1992, the AETE meeting has been the main conference that I have attended on an a regular basis, giving me the best opportunity to meet with good friends, make new ones and learn a lot about ET and associated fields by attending the invited lectures, poster sessions and workshops.

I remember very well, how Michel Thibier, as the one of our first presidents, managed these first meetings in Lyon in his very special style. A series of meetings has passed and now I am in charge of the fate of our society. This is a great challenge; however, I am convinced that we continue our prosperous activities and fruitful work. On my side is an experienced board: The new Vice president is Peter Voss (Netherlands). The secretary´s office, treasury, the newsletters and statistical report analysis remain in approved hands (Urban Besenfelder, Rainer Saner, Dimitrios Rizos and Himke Knijn) and the constant support from Ian Kippax and Serge Lacaze.

Unfortunately, two members left the board. I like to thank Claire Ponsart (France) and Jedrzej Jaskowski (Poland) for their contributions, their excellent work and for all what they have done for our society. Jedrzej was the head of the local organizing committee for our meeting in Poznan in 2009 and he organized also several workshops during our last meetings.

Especially I would like to thank the outgoing Past-President, Claire Ponsart, who served for a long period in the board for their fantastic contribution. She has done a lot for this society, has created every time a good mood and a vital spirit and inspired us. For me she is "Madame AETE" of the last decade. Thanks to her efforts and leadership our society remains in a healthy and vibrant state despite facing an existing global threatening economic situation. Many thank again Claire!

Two new members were elected for the board during our meeting in St. Malo. I like to congratulate Maria Dattena (Italy) and Jo Leroy (Belgium) for their election.

I would like to thank the members of the board for the excellent scientific program and Helene Quinton and her group acting as Local Organizing Committee. The local organizing committee not only chose an exceptional venue for the conference, but also provided an excellent social and cultural program. We were all treated to the well-known French hospitality and French style of living.

The overhanding of the AETE Medal of the 2012 Pioneer Award to Dr. Danielle Monniaux (INRA/France) was, of course, a special event during the conference. Danielle Monniaux received the award of the AETE due to her outstanding contributions in finding of regulatory mechanisms of follicular development and their control for embryo production. The prize-winner gave a very interesting lecture at the conference which created a vital basis for further discussions.

Furthermore, it comes from my hart to respond to our supporters. Numerous companies, whether as a sponsor or exhibitor, have stayed with us this year for the conference in St. Malo. Because this is absolutely essential for the realization of such a conference I would like to thank all sponsors and exhibitors for the granted support.

The 29th scientific meeting of the A.E.T.E. will be held in Istanbul, Turkey, from the 6th to the 7th of September 2013. I am sure that we will arrange an interesting program also for this conference too. More details will be published in the next Newsletter and on the AETE website soon. To move the meeting for a first time to Turkey is also a symbolic handshake to this part of Europe within difficult political times.

Here I like to remember that the European Union won the Nobel Peace Prize last week for promoting peace, democracy and human rights over six decades. I am absolutely aware that this award procedure is controversially discussed in the international public opinion; however, it shows that even in these challenging times, the European Union remains an inspiration for many countries and people all over the world and that the international community needs a strong European Union. In our association we demonstrate these awarded spirit and we are a small cog in this European work. It should encourage us to continue in our work; and I am looking forward to meet you in Istanbul.

Another important ET congress will take place next January in Europe. Preparations and forerunners for the 2013 IETS congress in Hannover (Germany) are well underway. An exciting scientific program is developed by our affiliated organization and I am sure that I will meet a lot of you in Hannover.
Finally I take this opportunity to share my earnest wishes that the coming year 2013 will be for you and for our association as well as all of our friends a year of success, improvement, strength and renewed commitment to all that is good and excellent.

May you have a happy and safe Christmas time and a prosperous 2013!

Sincerely
Frank Becker
President A.E.T.E

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A "visual" update of the last A.E.T.E. Scientific Meeting

Dear Colleagues, I am taking this opportunity by putting some photos together to remind you the success (scientifically and socially) of the previous meeting of the Association that was held in Saint Malo, France at 7th and 8th of September 2012. It was a pleasure to visit Saint Malo, a wonderful place in the north west of France. I would like to thank Helene Quinton, Chair of Local Organising Committee (CREAVIA), Frederic Charreaux (CREAVIA), Claire Ponsart (UNCEIA) and their colleagues for the organization of the fantastic meeting. I am confident that it will be another productive year for the Society and its members. The president and the board members of the society wishing you a Merry Christmas and a Happy New Year 2013.

Dimitrios Rizos, AETE Board Member – Newsletter Editor

Lecture Hall

Lecture Hall

Invited speakers:
Dr. Alex Evans, Ireland – Dr. Alireza Fazeli, UK
Dr. Gabriel Bo, Argentina – Dr. Claire Ponsart, France

Student Competition:
D. Brisard, France – V. Van Hoeck, Belgium
H. Aardema, The Netherlands – E. Held, Germany

Selected Abstracts for Oral Presentation:
P. Peugnet, France – R. Lopera Vasquez, Spain
A. Gordova, France – M. Holker, Germany
F. Guignot, France – K. Smits, Belgium

Visit to the Semen Production center in St. Aubin du Cormier

Welcome Reception

Gala Dinner

Visit to Mont Saint Michel

Winner of the STUDENT COMPETITION

Hilde Aardema, The Netherlands

Follicular diameter is not a good selection criterion for healthy follicles after super-stimulation of the cow.

Hilde Aardema, Bernard AJ Roelen, Helena TA van Tol, Christine HY Oei, Bart M Gadella and Peter LAM Vos

Department of Farm Animal Health, Faculty of Veterinary Medicine, Utrecht University, 3584 CL Utrecht, The Netherlands

Super-stimulation (SO) is a widely used reproductive technology in dairy industry, to increase the number of offspring of high genetic merit cows. The response to the SO treatment varies greatly and results in an unpredictable outcome of transferable embryos for the individual cow. A good response to SO has been related with a high number of medium sized follicles at the start of the SO, whereas aberrant levels of 17β-oestradiol and progesterone in follicular fluid near the time of ovulation have been associated with a reduced response to SO treatment [1, 2]. In the non-stimulated cow LH triggers a shift from 17β-oestradiol dominating concentrations around the LH peak towards progesterone dominating concentrations near the time of ovulation [3]. In super-stimulated cows, various follicles do not switch to progesterone dominance at the end of maturation and show intra-follicular asynchrony of sex steroids, follicular wall maturation and the nuclear maturation stage of the oocyte [4]. This indicates that the hormone levels of 17β-oestradiol and progesterone in follicular fluid near the time of ovulation may predict the success rate of SO. The aim of this study is to determine whether follicular diameter is related to 17β-oestradiol and progesterone concentrations in follicular fluid near the time of ovulation and whether this can be used to select follicles with a "healthy hormone profile".

To this end cycling heifers (n=16) were synchronized and super-stimulated to gain follicles at 22h after the induced LH peak, just before ovulation, and the diameter and hormone concentrations of each individual follicle were determined. Heifers were synchronized during 7 days with a CIDR® intravaginal device (Pfizer Animal Health) and a prostaglandin injection ($PGF_2\alpha$; Enzaprost® CEVA Animal Health, 25 mg dinoprost i.m.) one day before CIDR removal. On day 8 of the synchronized cycle (oestrus is day 0, 2 days after CIDR® removal) the dominant follicle of the first follicular wave was removed to induce a new follicular wave and the SO treatment was started 2 days later with twice daily decreasing doses of FSH for 4 days (40, 30, 20 and 10 mg, in total 200 mg Folltropin-V®, Bioniche Animal Health) according to a previously published super-stimulation protocol [5]. Heifers received a CIDR® device during SO treatment to suppress a spontaneous LH surge. $PGF_2\alpha$ (Enzaprost®, 25 mg dinoprost i.m.) was administered simultaneously with the fifth dose of FSH. A controlled LH surge was induced by a GnRH injection (1 mg Fertagyl® Intervet SP Animal Health) at the time of CIDR® removal (48h after PG injection) and follicles were collected at 24 hours after the GnRH injection (22h after the LH peak) [6]. Immediately after ovariectomy, all follicles of ≥ 8 mm were individually punctured and the diameter was estimated by the volume of follicular fluid. The hormone concentrations of 17β- oestradiol and progesterone were determined with RIA. The follicles defined with a "healthy hormone profile" were dominated by progesterone (17β-oestradiol/ progesterone < 1 and progesterone ≥ 0.5 μM) [3]. All procedures performed on the animals were in accordance with national regulations and established guidelines and were reviewed and approved by the Institutional Animal Care and Use Committee.

The "healthy hormone profile" of low 17β-oestradiol and high progesterone concentrations in follicular fluid was more abundant in larger follicles with a diameter of ≥ 13 mm (50%; 30/60) compared with the follicles of a diameter between 8 and 12 mm (27%; 33/123). Nevertheless, smaller follicles still contributed for half of the total amount of follicles with a "healthy hormone profile".

Larger follicles met more often the criteria of the "healthy hormone profile" with progesterone dominating concentrations near the time of ovulation. In non-

stimulated cows all pre-ovulatory follicles are progesterone dominated near the time of ovulation and the oocytes are in the metaphase-II stage of meiosis [7]. The LH peak triggers the hormone shift from 17β-oestradiol towards progesterone dominating concentrations in the pre-ovulatory follicle during final maturation [3]. The LH peak induces the transformation of theca and granulosa cells into luteal cells that start to produce progesterone instead of 17β-oestradiol, in line with a reduced gene expression of the enzymes responsible for the synthesis of 17β-oestradiol [8]. The higher percentage of "healthy" follicles in the group with a diameter of ≥ 13 mm may have resulted from a higher sensitivity to the LH peak, but needs further investigation. Super-stimulated cows have in contrast to non-stimulated cows, both progesterone and 17β-oestradiol dominated follicles and capture oocytes in germinal vesicle, metaphase-I and metaphase-II stage near the time of ovulation [4]. Nevertheless, most metaphase-II stage oocytes originate from progesterone dominated follicles after super-stimulation and in a co-culture of COCs and follicular wall fragments, wherein resumption of meiosis is inhibited, progesterone dose-dependently induces nuclear maturation of oocytes [4, 9]. High concentrations of 17β-oestradiol are, on the other hand, detrimental during *in vitro* oocyte maturation and result in nuclear aberrances and spindle formation defects in oocytes [10]. These data all indicate the importance of a proper switch from 17β-oestradiol dominance towards progesterone dominance in the pre-ovulatory follicle during final maturation for the competence of the oocyte. Our data show that follicular diameter and the "healthy hormone profile" are positively related. The usage of diameter as selection criterion is however limited as this would result in a loss of half the total amount of follicles with a "healthy hormone profile". Analysis of the concentrations of 17β-oestradiol and progesterone remains therefore crucial to select "healthy hormone profile" follicles after super-stimulation. Future research should focus on the development of a rapid test kit to measure 17β-oestradiol and progesterone levels in follicular fluid as a selection method for "healthy follicles".

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11.

WORKSHOP I

Oocyte Collection; What is New?

Organiser: Hiemke Knijn

The board of the AETE asked me to organize a workshop on Ovum Pick-Up (OPU) at the AETE in St Malo. The following report is a summary of the workshop.

Introduction

Ovum pick-up technique in humans was first developed by Pierre Dellenbach and colleagues in Strasbourg, France. In 1984 it was introduced into the United States at the Genetics and IVF Institute in Virginia. The first calf born from in vitro production was in 1981 Pennsylvania, US (Brackett et al. 1982). The first calf born from non-surgical Ovum Pick-up in 1987 Utrecht, The Netherlands (Pieterse et al. 1988). Since then the technique is used worldwide.

Since 1996 AETE collects data on OPU activities in Europe. In Figure 1 the number of countries that used the OPU technique for commercial reasons from 1996 onwards are shown.

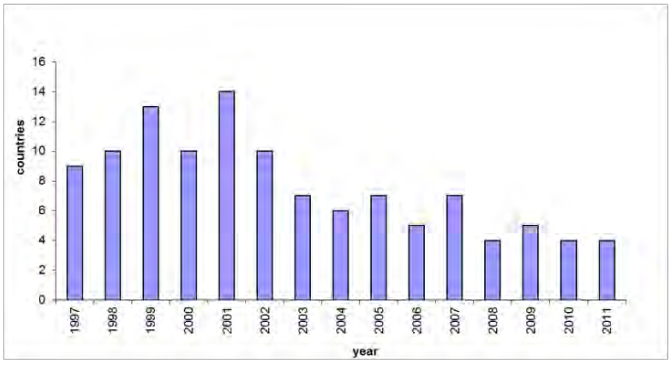

Figure 1: Number of European countries using OPU technique for commercial reasons according to AETE data collection.

The number of OPU sessions performed in Europe since 1996 are shown in Figure 2. The last year the number of OPU sessions increased. The expectations are that the demand for Ovum Pick-Up technique will further increase in the near future because of upcoming technological possibilities on genotyping of donor cows and genotyping of embryos.

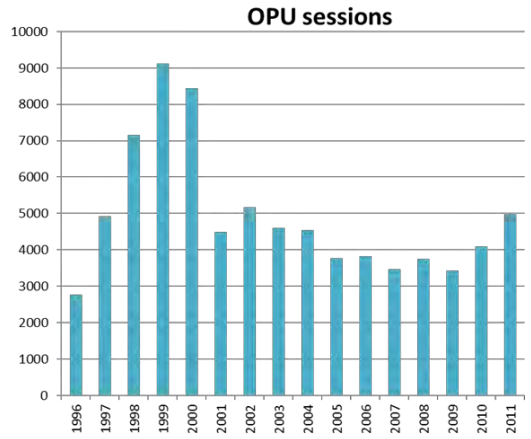

Figure 2: Number of OPU sessions performed for commercial reasons in Europe since 1996.

Workshop

In the present situation, four European countries are performing OPU in a commercial setting. All groups performing OPU for commercial reasons contributed to the workshop by making a video of an OPU session, filling in a questionnaire and by answering questions during the workshop.

During the workshop the differences in OPU technique between the groups were discussed. Some remarkable differences:

- The age on which OPU is performed for the first time differs a lot between the groups. It is expected that in the near future it will become more important to start earlier.
- Some groups use standard FSH treatment and other groups never use FSH treatment. This influences the results a lot. Also the frequency of OPU (twice a week, once a week of once every two weeks) influences the results significantly.
- The size of the needle that is used differs. Some groups chose for a long needle because they think that turbulence can affect the oocyte quality when they use a short needle.
- Some groups pay a lot of attention to keep the temperature of the oocytes as stable as possible. Other groups think this is less important.

Animals:

Animals	Minimum age of start	OPU in pregnant animals	Breeds
Italy	6-7 month	Yes	HF, Brown Swiss, Simmenthal, Chianina etc
The Netherlands	12 month	Yes	HF and Belgium Blue
France: Catherine/ Cyril	15 month	Yes (between 35 and 60days)	Montbeliard, HF, Charolaise, local breeds
France: Serge	15 month	Yes (66% of donors)	HF, Brown Swiss, Blonde d'Aquitaine
France: Alexandre	>10 month	Yes, a selection	HF
Germany	After first heat 8-9 month	Yes	HF All other breeds

Protocols:

Protocols	Treatment before OPU	Hormones and doses	Frequency of OPU
Italy	Nothing (except OPU within 1 week, 3-4d GnRH)	NA	Donors in house, twice a week, on farm once a week
The Netherlands	Nothing, (exception very low production)	Folltropin	Donors in house, twice a week, on farm once a week
France: Catherine/Cyril	SO, 5 decreasing doses	Stimufol	Once a week or every two weeks
France: Serge	SO, 5 decreasing doses	Stimufol	
France: Alexandre	SO, 6 decreasing doses	Stimufol and Pluset	
Germany	Nothing		Once a week or Every two weeks

Technique and environment 1 and 2:

Technique and surrounding	Ultrasound device	Puncture media
Italy	Toshiba Capsee and SonoSite Micromaxx	Flushing media with heparine
The Netherlands	MyLabFive-vet (Esaote-Pie)	M199, hepes buffered with heparine, penstrep and BSA
France: Catherine/Cyril	MyLabo30 (Hospimedi)	Euroflush medium with heparine
France: Serge	Parus240 (Pie Medical)	Euroflush medium with heparine
France: Alexandre	MyLabFive-vet (Esaote-Pie)	
Germany	Hitachi 6,5 MHZ Finger Top Probe	Flushing media with heparine

Technique and surrounding	Needle	Dominant Follicle puncture	Single or couple
Italy	17G 60cm with a 19G replaceable tip	No (sometimes pretreat with GnRH)	couple
The Netherlands	18Gx1.2 1.2x40mm	No	In house, couple In field single
France: Catherine/ Cyril	18G, ½ needle	In house, 2d before OPU, > 8mm	couple
France: Serge	18G	No	couple
France: Alexandre	20Gx2 0.9x50mm	No	Couple, but OPU by one person
Germany	17G x 550mm	No	Single

General:

General	OPU for breeding program or commercial	OPU technicians education by law
Italy	Commercial	Only veterinarians
The Netherlands	Both	Special training as paraveterinarian
France: Catherine/Cyril	Both	Not by law, but special training
France: Serge	95% breeding	Agreement of OPU team
France: Alexandre	Mostly breeding	No
Germany	Both	Technicians under supervision of a veterinarian

Results	Number of oocytes per session, per week, per donor	Quality judgement of oocytes	Selection of donors by OPU results
Italy	18,5/session (once a week) 10/session (twice a week)	All oocyes are cultured (excl.degenerated)	No
The Netherlands	Field: 15/session (once a week) 8/session (twice a week)	Yes	Breeding program: No Field: Yes
France: Catherine/Cyril	14,2/session (once a week)	34% gr1, 25% gr2, 22% gr3 19% gr4	Judgement on follicular potential
France: Serge	11/session (heifer) 13/session (cow)	Yes : 36%gr1, 23%gr2, 25%gr3,16% gr4	No
France: Alexandre	11/session	Yes	No
Germany		Yes, but all oocytes are cultured	Yes

A very open discussion took place thanks to the audience and the OPU teams. Therefore I would like to thank all OPU teams for all the efforts for preparing the video's and their active role during the workshop.

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WORKSHOP II

Equine Reproduction Biotechnology

Organiser: Helene Quinton and Marc Spalart

On Saturday, just after the last coffee break of the AETE meeting 2012 in Sant Malo, Marc Spalart (Equitechnic-Amélis) and Hélène Quinton (Créavia) chair a Workshop focused on applied equine biotechnologies. Four invited experts presented their activity in this domain:

• Marc SPALART (Equitechnic-Amélis in France) talked about conventional embryo transfer in France (more than 2000 embryo collections per year) and more particularly of what Equitechnic proposes: mobile lab to do collections in different studs and a herd of recipients for customers use. After having evoked the results in terms of collection rates (near 0.5 embryo per collection) and pregnancy rates (more than 70% at 14 days with fresh embryos) he also mentioned the limits of the conventional embryo transfer technique in equine without good results in superovulation and freezing (thawing) embryos.

• Fernando RIERA (Doña Pilar embriones in Argentina), presented us first, his very impressive annual commercial activity with 15081 flushings, 1647 Embryo Donors, 240 Stallions used by AI, and 4142 Recipients. He shared with us his great experience in conventional embryo transfer to optimize it in terms of results, economy and organisation. Then, he showed results with biopsied and frozen embryos with a vitrification method. To finish, he explained his oocyte transfer method for infertile mares.

• Cesare GALLI (Avantea, Laboratory of Reproductive Technologies, Cremona, Italy - Veterinary Medical Sciences Departement, University of Bologna, Italy) presented all his works in equine biotechnologies from OPU on mares, Intra Cytoplasmpic sperm injection, In Vitro Culture and freezing IVF equine embryos until cloning (they made the first mare somatic clone in 2003).

• Pascal CHAVATTE PALMER (Biologie du développement et de la reproduction, Institut National de la Recherche Agronomique, Jouy en Josas, France) presented us (in absence of Eric Palmer (Cryozootech)) the applied (to restaure the breeding capacity of castrated champions) and administrative (registration in stud-books) perspectives of cloned horses or clone's offsprings. At this time, 18 clones were born and registered in European studbooks, 5 stallions have been approved and are used (Pieraz, E.T., Quidam de Revel, Gem Twist, Chellano Z), no clone or offspring has participated to competition, but FEI has accepted their participation.

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European Statistical data of bovine embryo transfer activity 2011

Hiemke Knijn

The embryo transfer activities in Europe, as presented during the 28th AETE meeting in September 2011 in Saint Malo, France, are summarised in this report. The presented data are based on embryo transfer activities for breeding and commercial embryo production reported by 25 European countries. The data presented here are slightly different compared to the data presented in the proceedings of the meeting due to some corrections made by one of the countries. Activities in relation to research purposes are not included. The presented data include numbers on embryo production (MOET and OPU-IVP) and transfers (fresh and frozen) for bovine and other species (sheep, swine, goat and horse). These data are included in the report of the Embryo Transfer Association (IETS Data Retrieval Committee) on embryo transfer activities worldwide.

Embryo production

The total number of flushed donors was 21,633, which was a small increase in activity compared to the previous year. This resulted in a collection of 112,192 transferable embryos. The mean number of transferable embryos per flush was 5.2. A remarkable increase in number of flushed donors is occurred compared to the more or less stable numbers of the last years. On the contrary, the number of transferable embryos per flush has decreased. During the presentation of these results at the AETE conference, the audience did not have an suggestion for the reason of this decline. The results of embryo flushing from 2011 and previous years are shown in Figure 1.

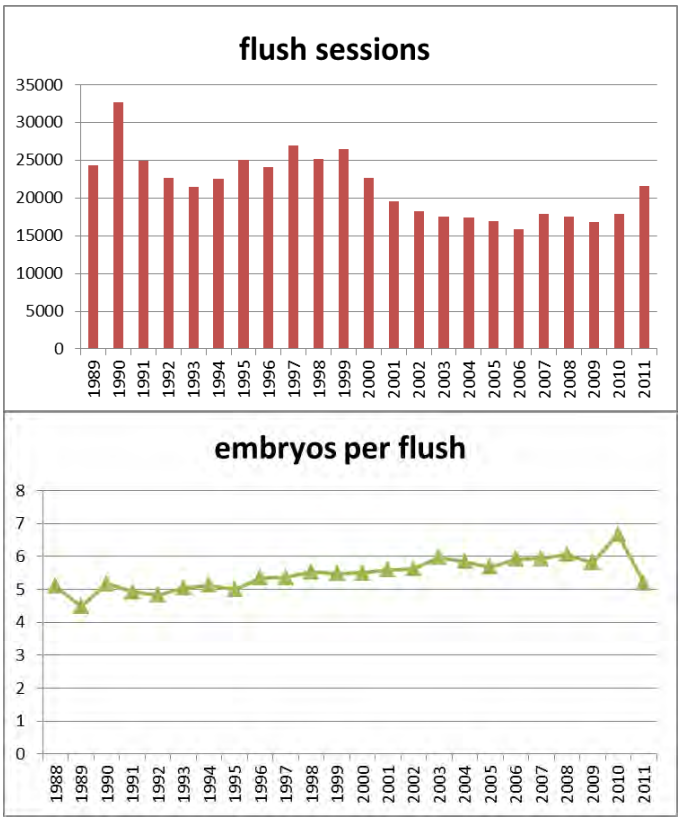

Fig. 1: In vivo embryo production in Europe (number of flushes and number of embryos per flush).

In 2011, four countries applied OPU for commercial reasons. The total number of OPU sessions was 4,975. A small increase compared to last year. This resulted in a production of 8,034 transferable embryos. The mean embryo production was 1.6 embryos per session. This is a significant increase compared to the past years. The cause of the increase in mean embryo production cannot be analysed from the collected data but many aspects in OPU logistics can influence the mean embryo production like, usage of FSH, number of OPU sessions per week, selection of donors etc. The results from next year will show if this decline is temporary or consistent. OPU IVP results from 2011 and previous years are shown in Figure 2.

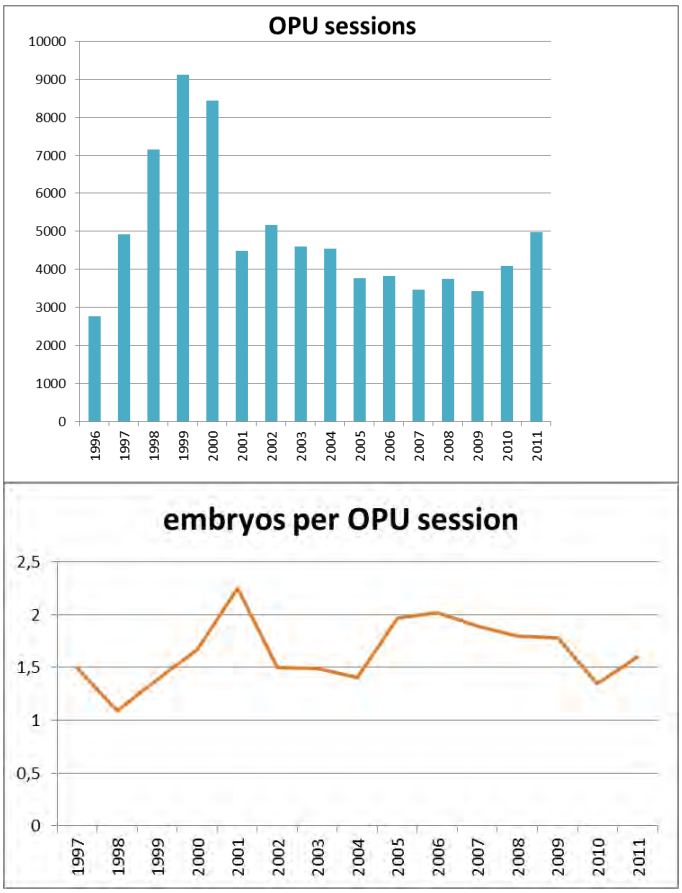

Fig. 2: In vitro embryo production in Europe (number of OPU sessions and number of embryos per session).

Embryo transfers

The number of embryos transferred amounts to 123,295 (Figure 3). The proportion of IVP embryos was 6.6%. The proportion of frozen embryos was 63% and 22% for the in vivo and in vitro embryos, respectively.

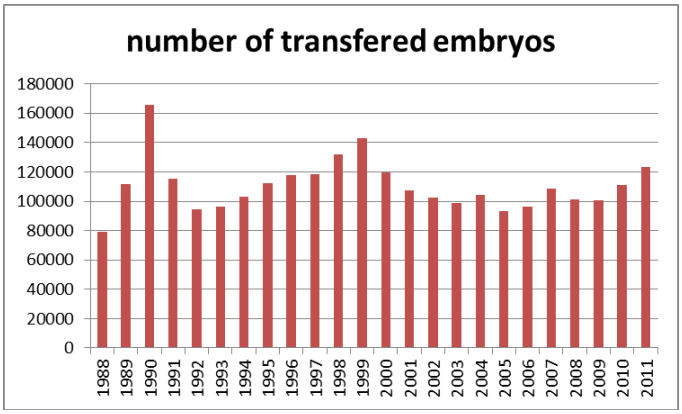

Fig.3: Total number of embryos transferred in Europe.

Distribution of the number of flushes and in vivo derived embryos transferred among the top 12 European countries is shown in Table 1.

Table 1: Application of MOET in Europe; Top 12 European countries ranked according to the number of flushes performed in 2011.

Countries	Flushes	Embryos Transferred
France	5,665	29,747
Netherlands	4,045	24,275
England	3,339	15,781
Germany	2,215	16,295
Italy	2,103	13,451
Belgium	1,022	5,178
Spain	626	2,662
Switzerland	533	2,982
Denmark	447	1,504
Ireland	420	3,306
Finland	418	4,033
Turkey	173	1,176

Other species

Data for embryo transfer activities in sheep, swine, goat and equine are shown in Figure 4. This year 8 countries reported embryo activities in species other than bovine. Embryo activities were reported in sheep, horses and goats. No activities were reported in swine. There are large fluctuations in activities over the years possibly caused by incomplete data collection.

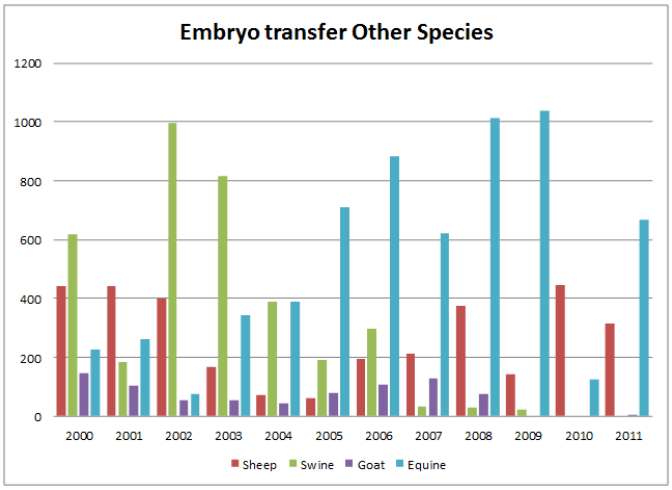

Fig. 4: Number of embryos transferred in Europe; other species

Summary

- The increase in number of embryos per flushing in 2010 did not last. The average number in 2011 has decreased significantly
- The number of OPU sessions did increase with 1000 sessions as compared to 2010 (4000→5000)
- The goal to collect data from 25 countries has been reached

Acknowledgements:

I would like to thank all participants who collected the embryo transfer statistics for their country and helped me to make an overview of the activities in Europe. In the meanwhile I would like to encourage all AETE members to help me collect embryo transfer data from all European countries. If you have a contact that is able to collect the data in one of the European countries that did not provide data this year please contact me:
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Upcoming Events

39th Annual Conference of the International Embryo Transfer Society (IETS)
January 19-23, 2013
Hannover Congress Centrum
Hannover, Germany
For more information, please visit the IETS web site at: http://www.iets.org/2013/

1st COST Action FAI201 – EPICONCEPT
General Conference - "*Epigenetics and Periconceptional Environment*"
April 24 – 25 2013
Antalya, Turkey
For more information, please visit the COST-EPICONCEPT web site at: http://www.epiconcept2013.org/

American Embryo Transfer Association **(AETA)** & Canadian Embryo Transfer Association **(CETA/ACTE)**
Joint Scientific Convention
October 10-12, 2013
Grand Sierra Resort & Casino in Reno
Nevada, USA
For more information, please visit the CETA/ACTE web site at: http://www.ceta.ca/
or the AETA web site at: http://www.aeta.org/2013/

Main Scientific Program of IETS 2013

"Advances and new concepts in the understanding of…."

Saturday, January 19, 2013

Preconference Symposium "Advanc334 es in Transgenic Animal Production"

Sunday, January 20, 2013

Session I*: …follicular development*

Regulation of Anti-Müllerian hormone production in domestic animals
***Danielle Monniaux**, INRA, France*

Effect of superstimulatory treatments on the expression of genes related to ovulatory capacity, oocyte competence, and embryo development in cattle
***Ciro M. Barros**, University of São Paulo State, UNESP, Brazil*

Session II: *…early embryonic development*

Dynamic regulation of sperm interactions with the zona pellucida prior to and after fertilization
***Bart Gadella**, Utrecht, The Netherlands*

Sex-specific embryonic origin of postnatal phenotypic variability
***Alfonso Gutierrez-Adan**, INIA, Madrid, Spain*

Session III: *…uterine biology*

Associations between lipid metabolism and fertility in the dairy cow
***Claire Wathes**, Royal Veterinary College, United Kingdom*

Hosting the preimplantation embryo: potentials and limitations of different approaches for analyzing embryo-endometrium interactions in cattle
***Susanne Ulbrich**, Technical University Munich, Weihenstephan, Germany*

Monday, January 21, 2013

Session IV*: …reproductive outcome*

Bovine luteal blood flow: basic mechanisms and clinical relevance
***Heinrich Bollwein**, Vetsuisse-Fakultät Universität Zürich, Switzerland*

Assisted reproduction techniques in the horse
***Katrin Hinrichs**, Texas A&M University, USA*

Poster Session I

Session V: *…modern reproductive biotechnologies*

Early development of the porcine embryo: the importance of cell signaling in development of pluripotent cell lines
***Vanessa Hall**, University of Copenhagen, Copenhagen, Denmark*

Pluripotent cells in farm animals: state of the art and future perspectives
***Monika Nowak-Imialek**, Institut für Nutztiergenetik, Mariensee, Germany*

Tuesday, January 22, 2013

Practitioners' Forum: How can ET praxis find its feet in the age of genomics?
*Chair: **Claire Ponsart** and **Sybrand Merton***

DABE Forum
*Chair: **Fulvio Gandolfi***

Poster Session II

Session VI: *Keynote address*

Contributions of an animal scientist to understanding the biology of the uterus and pregnancy
***Fuller Bazer**, Texas A&M University, USA*

The 29th Scientific Meeting of the A.E.T.E

Will be held in

Istanbul, Turkey

6TH-7TH SEPTEMBER 2013

Invitation

On behalf of the European Embryo Transfer Association, the local organizing committee cordially invites you to the 29th scientific meeting of the organization in Istanbul, Turkey, from the 6th to the 7th of September 2013.

The Local Organizing Committee will be chaired by Ebru Emsen (Ataturk University) together with Carlos Gimenez (Er-Gen Biotechnologies) and Sezen Ocak (Zirve University).

The Conference Location

In 2013, the meeting will take place in Istanbul, at the "Renaissance Polat Istanbul Hotel" http://www.marriott.com/hotels/travel/istrn-renaissance-polat-istanbul-hotel/

Welcome to ISTANBU….a wonderful city

Istanbul is situated on a peninsula flanked on three sides by the Sea of Marmara, the Bosphorus and the Golden Horn. It has been the capital of three great empires, the Roman, Byzantine and Ottoman empires, and for more than 1600 years over 120 emperors and sultans ruled the world from here. No other city in the world can claim such a distinction.

How to travel to Istanbul?

Atatürk Airport in Istanbul Turkey's is on e of the larger airport in Europe. From here you can travel to many destinations, both in Turkey and worldwide.

We look forward to seeing you in 2013 in Istanbul.

Local Organizing Committee

Language
The official language of the conference is English.

Scientific Secretariat
AETE board

REGISTRATION FEES

Istanbul, Turkey 2013	Euros
Full/Associate Member Before *15th July 2013*	290 €
Full/Associate Member After *15th July 2013*	340 €
Student Member Before *15th July 2013*	140 €
Student Member After *15th July 2013*	155 €
2013 Membership Fee *Members who pay their annual fee but do not attend the Meeting will receive a copy of the proceedings*	90 €
2013 Accompanied Person	120 €

This price includes:
- membership fee
- participation at the Meeting (two full days)
- two workshops
- published proceedings
- lunch and coffee breaks
- social events

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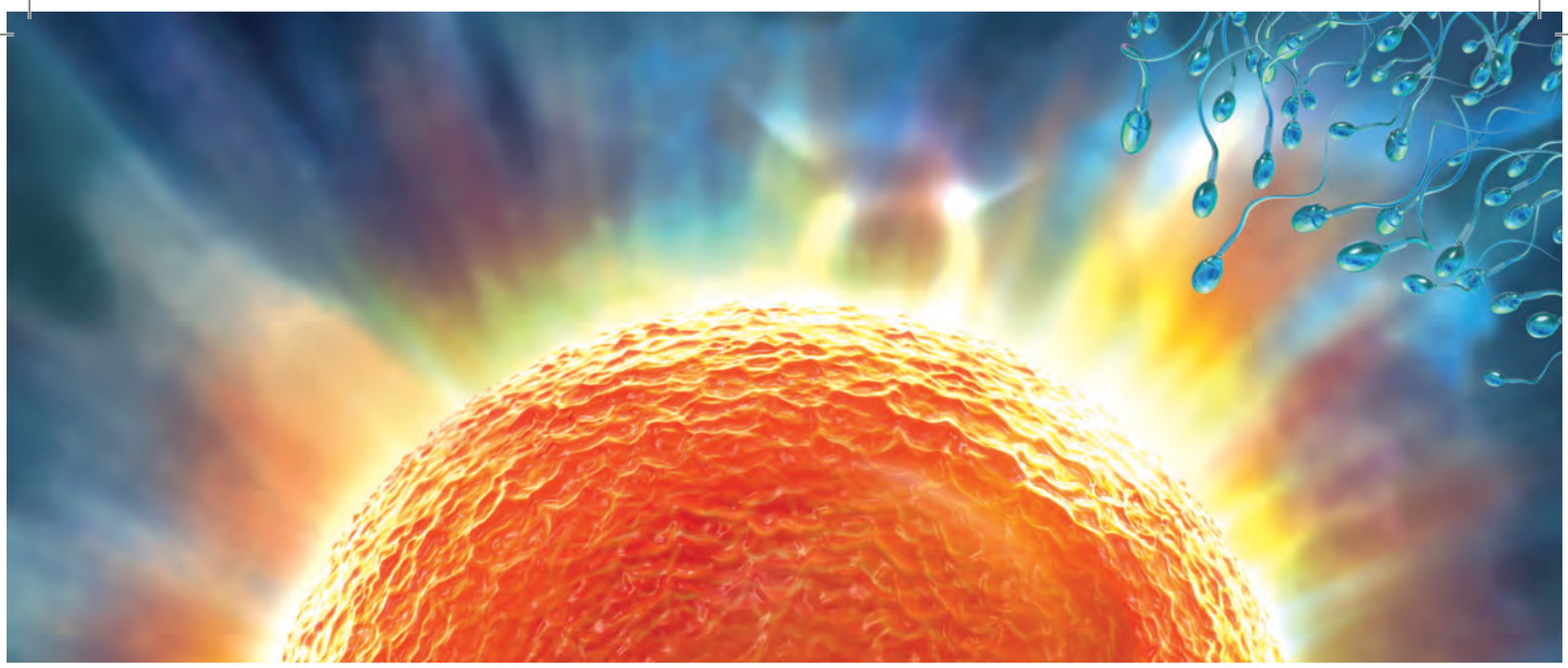

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