

The international AI news from Minitüb

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Minitüb

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Our knowledge - Your success

REF. xxxxx/xxxx

**Dear SpermNotes-Reader, Dear Friends of
horse breeding,**

Another year has passed and a new breeding season has already started. With this year's SpermNotes we will inform you on scientific news and news at Minitüb.

We are delighted to introduce our new filling and sealing machine for semen straws - MPP Uno. This machine was especially designed to fulfil the needs of horse breeding studs.

We are very pleased to advise you that our extender EquiPro™ liquid is our „Product of the year 2007“.

This year there will be a lot of chances to meet us at conferences, fairs and courses. At the end of this issue you will find the dates and locations.

Have a nice time reading. By the way, previous issues can be found on our web page: www.minitube.de. We do hope you will visit this site. For comments and any ideas you are welcome to send an email: minitube@minitube.de or call us: [+49 -8709-9229-0](tel:+49-8709-9229-0).

We wish you a good and successful horse breeding season!

Your Minitüb Team

Product news

Product of the year - EquiPro™ liquid

In 2006 we introduced a new product, called EquiPro™ liquid. This culture medium for fresh and chilled equine semen has been developed based upon the proven EquiPro™ in powder. It contains specific caseinates which have proven to be very beneficial in horse semen preservation. The preparation of this liquid extender with our modern equipment, especially with the highly purified water out of our high-end water purification system, guarantees a perfectly dissolved medium of high stability. Because of the easy use and of course because of the good quality semen shows when diluted in EquiPro™ liquid, we received very effective feedback from you and our sales numbers increased very quickly.

The extender, which comes in a glass bottle filled with 100 ml, is placed into the water bath to warm it to the desired temperature and the ejaculate is mixed with the liquid EquiPro™ according to the desired dilution ratio. After this the insemination dose can be stored or transported for up to three days.

Because of its clear appearance it can also be used as centrifugation medium.

EquiPro™ liquid is available with or without antibiotics.



EquiPro™ liquid, 100 cc, without antibiotics REF. :13570/0300

EquiPro™ liquid, 100 cc, with antibiotics REF. :13570/0301

MPP Uno - the little huge one **Filling technique on the latest state of technology**

In mid-2007 Minitüb introduced to the market another ultra-modern fully automatic filling- and sealing machine, constructed on the latest state of technology, the **MPP Uno**.

The beauty of this one-nozzle filling system lies not only in an extreme compact and robust design, but also particularly in its very economical operation method. Especially when working with small volumes and valuable ejaculates you will benefit from its short semen runs and the resulting economy.

In each cycle one semen straw is filled and sealed, with the sealing performed by means of ultrasonic welding. The **MPP Uno** is suitable for processing 0.5 cc semen straws as well as for 0.25 cc semen straws. Conversion is possible within only a few minutes without exchanging any parts. Magnetic clamps assure that the changing of filling and suction nozzles is as easy and fast as it can be. This makes processing of several consecutive different ejaculates very easy.

The filling and sealing area is completely closed which guarantees best hygienic and safety conditions. But nevertheless you can observe the operation during the whole time of filling and sealing which allows ideal monitoring of the process.

Because of the efficient and compact design the **MPP Uno** fits in any laboratory even when there is not a great amount of space available.

The **MPP Uno** convinces with its compactness and easy handling, but nevertheless impressive results.

A small machine with great technology!



MPP Uno, complete

REF. : 13017/0000



Product news

Special embryo implantation set

Our new system for the transfer of horse embryos is offered in 2 versions: one for 0.5 cc straws and another one for 0.25 cc straws.

For the transfer system for embryos in 0.5 cc straws it is possible to choose between a side and a front opening.

For 0.25 cc straws the sheath has two side openings.

Because of their length, flexibility, the non-traumatic tip with a safe fixation of the straw and the small diameter, both versions are particularly suited for equine embryo transfer.

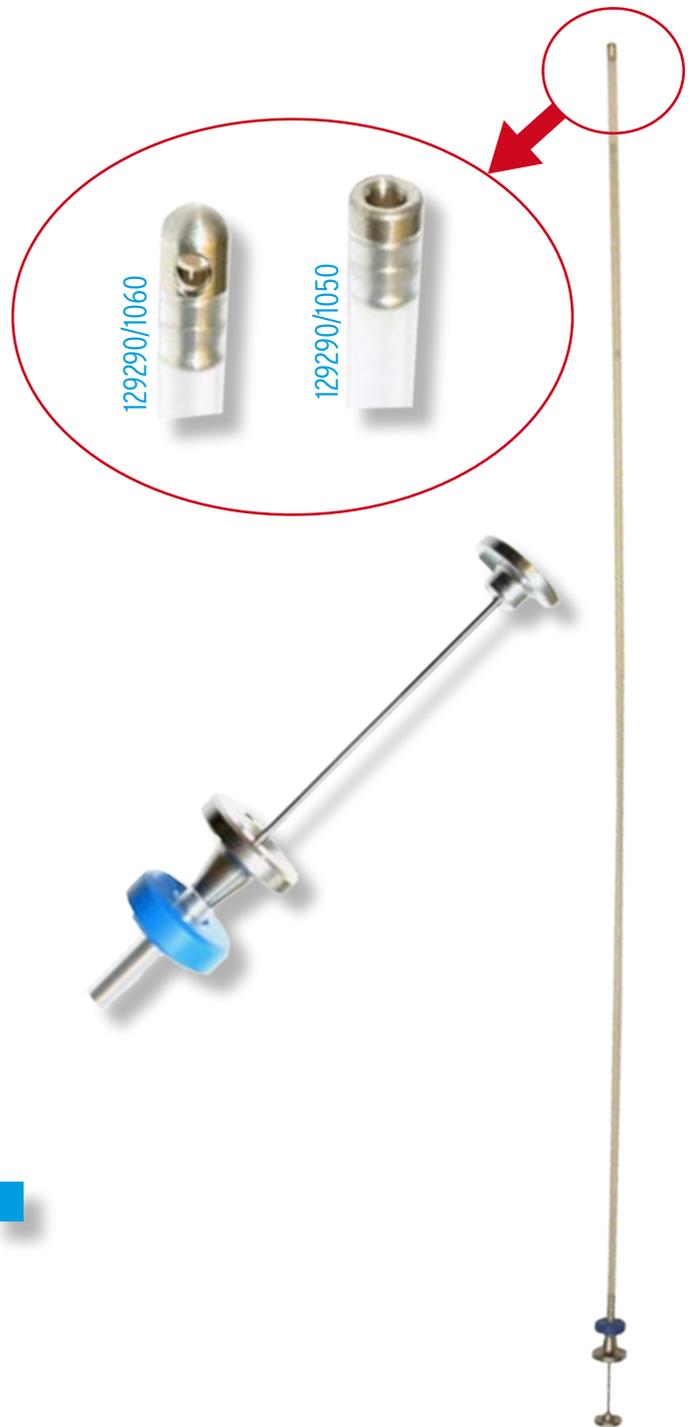
Embryo Transfer set for 0.5 cc straws:

For utilisation with AI stylet 17209/1065:

Sheath for equine ET with front opening	REF. : 19290/1050
Sheath for equine ET with side opening	REF. : 19290/1060
Finger support and ring for equine ET sheath	REF. : 19290/1048

Embryo transfer set for 0.25 cc straws

Insemination set , consists of a flexible stylet and a finger support	REF. : 17015/0100
Transfer sheath , front opening to be used with 17015/0100	REF. : 17015/0650



Scientific news

Cryoprotectants for equine semen cells

Dr. Frank Müller-Schlösser

The use of glycerol as a cryoprotectant has proven good for freezing semen cells of many domestic animals since its first use by POLGE in 1949. To this day it remains a fixed element in the recipes for media for freezing.

During freezing and thawing procedure glycerol intervenes in a compensating way in the crystal development and water distribution of the semen cell. Addition of glycerol has proven good for freezing bovine semen worldwide, and this is the reason why it is used for many other domestic animals - but with varying success.

For instance with the application for horse semen one can see different, obviously individually caused, losses in its effect - especially when used at higher concentrations. For that reason substances are needed which show a glycerol-similar good freezing protection but in general are more sociable.

For many years, during the search for replacements for glycerol, different sugar alcohols, acetamides, ethylene glycol and amino-acids like glutamine were tested in sundry models with most differing results. Unfortunately

▶ it was not possible to transfer results of other mammalian species to the horse, nor could the tested substances show the expected striking success. A classic example is DMSO (Dimethylsulfoxid) which is very successful for rabbit semen, as well as elephant semen, but could not give any considerable improvement with the recipes used for horse semen.

Due to the latest scientific results there is another chemical substance in focus: Dimethylformamide (DMFA). While certain amides have been available for a longer period of time, it is a special preparation of those Dimethylformamides which is able to reduce glycerol concentration to a minimum of only 1% for the first time. In such a low concentration its toxic effect is almost suspended. Results from Brazil, America and other countries promise at least as good thawing and fertility rates, yet a study by SIEME/University Hannover could not prove any positive effect. Research at Minitüb is involved in the developments and follows them with great interest, but with scepticism, too.

Dimethylformamide is a problematic substance as it can cause toxic and teratogenic effects (teratogenic means deformation during embryonic development). Such risk cannot be played down by the hint of high dilution rates. While manufacture of DMFA-containing recipes seems to be realisable, there is a risk for the user by possible misuse, like skin contact with freezing media containing DMFA. The possibility of unforeseen accidents during handling of DMFA-containing media and the possibility of improper application induced us not to use DMFA in its current published formulation.

However, research on user-friendly cryoprotectants goes on and there are alternative solutions in hand.

*Dr. Frank Müller-Schlösser, Minitüb
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and insemination
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Minitüb scientific award

Minitüb scientific award goes to Sarah Buschatz

At the 5th International Conference for Equine Reproduction Medicine in Leipzig (Germany) Minitüb presented the "Minitüb Scientific Award" for the third time. With her publication "Establishing and characterisation of cell cultures of equine endometrial epithelial and stroma

cells, Sarah Buschatz convinced the jury. On the 25th November Prof. Schoon (University Leipzig) and Dr. Esch handed the prize over to the proud laureate.



Events 2008

Equine Embryo Transfer Course, Belgium, Beselare 13. to 14. March:

This course is targeted at German-speaking veterinarians.

Part of the lectures and laboratories will be in English and other parts in German. Instructors are Peter Daels, Hilde Vandaele and Gabriel Vandaele (Keros) and Dominique Burger (Harras Swiss National Stud, Avenches). Upon completion of this course, participants should feel comfortable with the recovery, manipulation and packaging of equine embryos, and be competent in the non-surgical transfer of them.

Lectures will cover factors affecting recovery of embryos, procedures of superovulation, control of the oestrus cycle, non-surgical methods of embryo transfer, factors affecting pregnancy rates and storage/shipment of embryos. Laboratory sessions will aid veterinarians in identifying and handling embryos and assessing embryo quality. Veterinarians will experience hands-on procedures for embryo recovery, preparation of transport of embryos and non-surgical transfer. For more information please contact KEROS:

info@keros.be

6th International Symposium on Canine and Feline Reproduction, Austria, Vienna, 09. to 11. July:

For those practitioners interested in small animal sciences. Minitüb will have a stand there and introduce our product range for dogs.

www.evssar.org/ISCFR_6th.html

5th International Symposium on Stallion Reproduction, Brasil, Gramado 18. to 20. September:

Possibly the biggest congress in stallion reproduction; only held every four years. Lectures cover anatomy, physiology and reproduction pathology, semen function and evaluation, insemination and semen conservation. In addition there are 3 Workshops. We look forward to meeting you there.

www.ufrgs.br/ISSR

Continuing education for technicians, stallion owners and veterinarians, Germany, Neustadt/Dosse, Autumn 2008:

This German-speaking seminar is held the second time as many customers asked for it and because of the great success of the first one. We will announce the date soon.

ICAR, 16th International Congress on Animal Reproduction, Hungary, Budapest, 13. to 17. July:

You would like to know what the future brings with regards to animal reproduction? We can highly recommend participating at this event. Held every 4 years, the congress combines scientists and practitioners from all continents interested in reproduction of domestic and wildlife animals for more than 30 years. The program is very comprehensive and covers all areas of assisted reproduction.

www.icar2008.org

ESDAR + A.I.Vets 2008 Netherlands, Utrecht 20. to 23. November:

It is the second time the two congresses have been held at the same date. You will have the chance to hear about the latest scientific news in animal breeding.

www.esdar.org

All important dates can be found on the internet - www.minitube.de (Chapter „Expositions“)