

# COLLECTIS®

New standard for boar collection!



High level of hygiene

Better and safer working environment

Productivity rise up to 90%

Maximum stimulation of the boar

## SEE INSIDE FOR MORE

The Collectis concept	2
Main components	2
Semen quality	4
Semen quantity	4

### TESTIMONIALS

"Collectis made my life easier"	6
"A sound financial decision"	8
"When safety matters"	10

Different set-up 12

Press articles 14

Collectis specifications 15





## COLLECTIS® - The solution to a real problem

With over 5 years of field proven production, the COLLECTIS® technology has been well accepted and production systems worldwide have recognized the benefits of the COLLECTIS®. Today, COLLECTIS® is utilized to collect over 7,800 boars weekly producing more than 13 million doses annually.

### The Concept

The idea was to develop a system which would maximize the efficiency of labor while reducing production cost. The result is COLLECTIS®, an automated boar collection system, that is a functional and practical approach to boar semen collection. The COLLECTIS® is designed to allow a single technician to “manage” multiple collection pens simultaneously while eliminating the need for technicians to collect boars.

### Main Components

#### Artificial Vagina (AV) - “The heart of COLLECTIS® ”

The heart of the COLLECTIS® is an artificial vagina (AV). The helicoidally shape of the AV duplicates the natural shape of the sow’s cervix and maximizes boar stimulation during collection.

The design of the AV protects semen against contamination and maximizes hygiene during collection by utilizing a disposable collection system. The pressure of the AV is controlled by air pressure through the master control box.

##### Disposable Semen Collection Set – Sanitation & Safety

*Collection Sleeve* – During collection, the boar’s penis is surrounded in a disposable plastic sleeve within the AV. The disposable sleeve serves a dual purpose. First, it prevents the boar from coming into direct contact with the AV. Second, the disposable sleeve shields the semen being collected against contamination.

*Filtration Cone* – A disposable filtration cone attaches to the bottom of the AV during collection creating a sealed containment vessel for semen being collected. As semen is filtered into the integrated collection bag, it is prevented from coming into direct contact with the collection environment, and air contamination is greatly reduced.

*Collection Bag* – After being filtered, the semen is collected in the disposable collection bag which is attached to the filtration cone by a perforated tear strip. Once collection is complete, the technician simply tears the bag at the perforation and sends the semen to the lab for processing.



#### Stainless Collection Dummy – “The hardware supporting COLLECTIS® ”

Made of long-lasting stainless steel, and coated with durable plastic, the collection dummy has been specifically designed to maximize the effectiveness of the AV on the COLLECTIS®. The AV and collection vessel “ride” on an adjustable trolley located underneath the collection dummy. This critical design



component allows the boar to continue to move and thrust while still being connected to the COLLECTIS<sup>®</sup> without disconnecting or damaging the boar's penis.

Delivered with 1/4" stainless steel mounting plates, it can be fixed on top of either slates or a concrete pad.



Disposable liner for vagina

Disposable plastic cone with semen bag and filter connected

Connector for air wire for vagina

### Master Control Box – “The brains behind COLLECTIS<sup>®</sup>”

The master control box for the COLLECTIS<sup>®</sup> regulates the pressure applied through the AV during collection. Housed in a sealed heavy-duty plastic electrical box. The master control box has 3 main functions.

- *Venturi Function* – Designed for boars with a “thicker penis shaft” the venture function applies a vacuum to open the AV wider to accept the boar's penis.
- *Continuous Pressure Function* – This function applies continuous pressure during collection to insure the boar is properly stimulated.
- *Pulsating Cycle Function*– For larger boars, the master control offers a “pulsating cycle”, which assists in stimulating boars during collection.



### Set Up and Installation



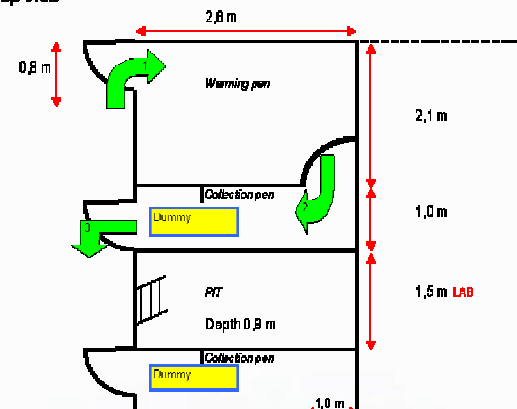
The COLLECTIS<sup>®</sup> can be installed in any type of existing boar stud. However, to take full advantage of the technology, a collection pit is recommended. This creates a better working environment for the technician and increases efficiency.



Also, the COLLECTIS<sup>®</sup> technology allows multiple boars to be collected simultaneously. To take full advantage of the speed and efficiency of COLLECTIS<sup>®</sup>, the use of warming pens or stimulation pens to assist in preparing boars for collection are strongly suggested.

Collection area

Top view





## COLLECTIS® - Semen quantity and quality unchanged

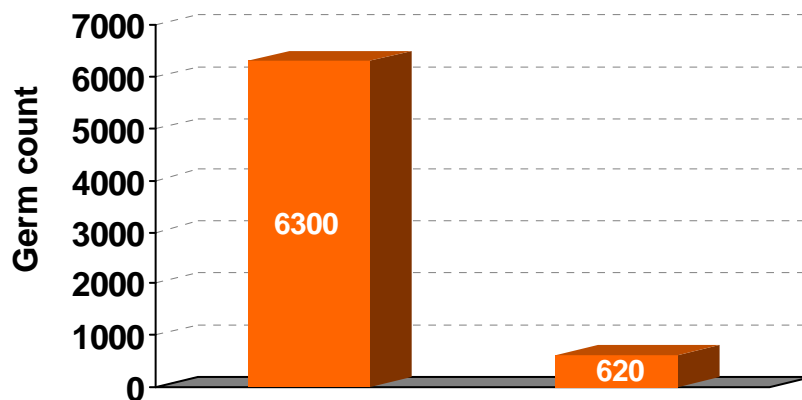
The COLLECTIS® improves semen technician efficiency, safety, and comfort without any impact on the quality or quantity of semen collected.

### Semen Quality

Since the introduction of the COLLECTIS®, comparison testing of semen cell morphology has shown no difference between COLLECTIS® and other collection techniques.

A comparison trial on 55 ejaculates was conducted by an independent team to assess semen contamination (bacteria) between boars collected manually and boars collected with the COLLECTIS®. Semen samples were cultured and assessed for bacterial growth. In summary, there was a significantly lower bacteria presence of the semen collected with Collectis®. Semen collected with Collectis® had > 10 times less contamination when compared with hand collection.

**Graph1:** *Level of contamination in semen collected manually and with the COLLECTIS®*



Results of trials conducted by NBG Artificial Insemination Station, Landshut—Pocking eG, Bavaria, Germany in conjunction with LMU University for Hygiene and Technology of Milk, Munich, Germany

### Semen Quantity

During the first 2 to 3 weeks, most of the studs switching to the COLLECTIS® will notice a decrease in the number of doses produced per ejaculate. This is due to both the boars and the technicians adjusting to the new technology. After the initial transition period, production returns to normal.

**Table 1** displays a summary of production data for ejaculates collected manually and using COLLECTIS®.

**Table 2** is showing the overall labor efficiency comparison between manual collection and collection using the COLLECTIS®.

**Table1:** *Summary of production for ejaculates collected manually and using COLLECTIS®*  
 SOURCE : Sergio Barrabes Aneas - ICBSB 2007

	MANUAL	COLLECTIS®
Average Rest (days)	4.38	4.87
Doses / collection	21.05	21.05
Concentration (million of SPZ per ml)	360.15	372.36
Volume / collection (ml)	185.03	183.28
Total Cell / collection (billion of SPZ)	63.16	63.15
Number of ejaculates	37,263	35,450

**Table 2:** *Overall labor efficiency comparison*

Source : Sergio Barrabes Aneas—ICBSB 2007

	MANUAL	COLLECTIS®
Number of collections	37,264	34,450
Number of collection days	152	156
Average daily collection time (hours)	5.46	3.96
Average number of collectors per day	14.17	11.32
Average daily number of collection	239	233
Average hourly number of collection per collector	3.07	5,82
Average time for first collection	7:26 AM	8:11 AM
Average time for last collection	12:56 PM	12:09 PM
Total collection hours per year	24,164 <sup>a</sup>	14,002 <sup>b</sup>

<sup>a,b</sup> Different superscripts within rows indicate significant difference (P<0,05)





## Greg Lebowa: COLLECTIS® made my life easier

Like the majority of pork producers, boar studs are faced with the challenges of finding and retaining quality employees. Greg Lebowa from ASG was facing these challenges on a daily basis. The 150 head boar stud is located on the outskirts of Edmonton, Alberta, a major oil field area. The boar stud is, therefore, surrounded by oil related companies and the competition for quality employees is very stiff. In addition, there are almost no swine facilities in the area, so the availability of people with a swine background, is very limited. Having tried numerous strategies of employee management, Greg heard about the COLLECTIS® from Genes Diffusion and decided to purchase one machine for the facility. After 60 days of using the COLLECTIS® successfully, a second COLLECTIS® unit was installed.



Greg Lebowa, General Manager of ASG, has been using the COLLECTIS® technology for almost a year now and shares his comments with us.



**Genes Diffusion (GD):** Have you seen any difference in semen output since you switched to the COLLECTIS®?

**Greg Lebowa (GL):** At the beginning when the technology was new, we did see a slight reduction in volume per ejaculate, but after a couple months the boars were back to their original volume and concentration. Today, we do not see any difference in volume and there is no difference in semen

morphology. We also have not noticed any increase in contamination or bacteria and semen shelf life is unaffected.

**GD:** How many boars are currently being collected by the machine versus hand.

**GL:** Over 80% of the boars today are collected with the COLLECTIS®. Some boars are collected by hand because they do not give as much with the machine as they do by hand. The rest are too big to exit through the side gate we designed and we have to collect these in a different collection area.



**GD: After a year of using the COLLECTIS<sup>®</sup>, has collection efficiency improved?**

**GL:** It used to take over 6 hours non stop for our team of 4 people to collect 65 boars on Sunday. It was a long process, and employees were exhausted. Now it takes less than 4 hours; cutting our collection time by 1/3. In addition, the employees work in a better environment and have better morale.

Since the boars are housed in large pens and our barn is quite long, it requires a lot of time for the team to move boars. Because of our building design we use one operator (2 collection pens), and 1 runner per machine. Collectors regularly collect between 10 and 12 boars per hour when using COLLECTIS<sup>®</sup>.

**GD: How was the installation and set up of the COLLECTIS<sup>®</sup>?**

**GL:** Genes Diffusion not only provided the COLLECTIS<sup>®</sup> but also provided assistance in designing the collection area to maximize production efficiency. Then they installed the COLLECTIS<sup>®</sup> and provided on site training for the employees.

**GD: How easy is the training of employees on the machine?**

**GL:** Fairly easy: A collector does not need to come in contact with the boar during collection.



By working from a pit the new employees are not scared of the animal and learn faster.

Also new people tend to let go of the penis too soon. With the COLLECTIS<sup>®</sup>, this does not happen. The same thing holds true with experienced collectors after too many collections in a row, the COLLECTIS<sup>®</sup> maintains a consistent grip eliminating technician error from inexperienced or fatigued employees.

**GD: So the COLLECTIS<sup>®</sup> also has been a tool to help you improve people management?**

**GL:** Yes. It gives us so much more flexibility in managing our employees: When one employee is on leave, the rest of the team can handle the work easily and still complete production in a timely manner. The COLLECTIS<sup>®</sup> allows the employee to be more efficient, it would have normally taken us 2 or 3 hours extra per day when the team was short one person. Therefore, the team has a lot less frustration and better morale.

**GD: After all these comments would you recommend the COLLECTIS<sup>®</sup> to other studs?**

**GL:** Yes. It helps better manage employees: the employees feel better about their job, and morale has improved. When the team is short, it is not a big deal anymore. The team bonds together and gets it done.

It is also a sound financial decision. Saving a third of the time in collecting is equivalent to 1.3 person or \$33,000 per year. I will pay for the investment in about 2 years.





## Ron Drapeau – A sound financial decision

CIPQ Inc. (Centre d'insémination porcine du Québec (CIPQ) inc.) was created in 1977 by the Department of Agriculture of Quebec to promote and provide the AI technique to the Quebec swine industry. In 1990, the organization became a crown corporation ran by a board of directors that is mainly pig producers and AI users. Today CIPQ Inc. operates five (5) AI studs with a boar capacity of 1,050 and sells over 1.7 million doses per year.

Ron Drapeau, General Manager for the CIPQ, has been the leading decision maker in the implementation of the COLLECTIS® technology.



### ***Genes Diffusion (GD):*** When did you decide to invest in the technology?

**Ron Drapeau (RD):** In 2002, we visited Genes Diffusion's unit in Laval, France. We saw an impressive layout there where three COLLECTIS® were working. We were quite impressed with it. Later, we discussed and we evaluated the possibility of installing the COLLECTIS® within our organization, and we decided to install it in two of our units in order to validate the real potential of this technology. After installation, we started to work with the COLLECTIS® with well established goals (X % of success compared to the old method). From there, it has evolved and after five weeks, it was more than 90 % successful. Today, after a year, we can say that all the boars are collected with the COLLECTIS®. We have also installed two other of our units with the COLLECTIS®, early in the spring of 2005. After two weeks, the majority (98%) of the boars are collected with the COLLECTIS®.



### ***GD:*** What are the main reasons to invest in the COLLECTIS® technology?

**RD:** The main and only reason we invested in the technology is the expected overall improvement of the efficiency of the organization. For us, the goal was to lower, in a significant manner, the cost per collected ejaculate in improving the numbers of collection per time unit for each staff member; if this orientation could be achieved, it also means that in our very important production day, we would be able to meet our goals in terms of hour deadline.

We also considered the fact that it is not easy to find good and dedicated staff in our industry. With this kind of technology, we are able to do the same amount of work with less staff; the staff feels better about themselves and they operate in a more secure environment.

### ***GD:*** Is the COLLECTIS® more efficient than the technique you were using before?

**RD:** We have installed nine COLLECTIS® in our organization (about 1 per 100 boars). A well trained and dedicated staff can achieve eight collections per hour using the COLLECTIS® technology compared to four collections per hour with the traditional method.





We have reorganized the working schedule for our permanent staff. We are also using less part time workers in the organization. Overall, we consider that we need 25 % less working hours in the studs to achieve the same numbers of collections.



**GD: Did you notice any changes in semen output or quality?**

RD: During the training process, we observed a little deterioration for certain boars. As soon as the process is well controlled by the staff and boars become familiar, everything comes back to normal. After a full year of operation in all of our studs, we will see if there is an impact. We suspect that we will probably see an increase in the sperm output a little bit because it's the boar himself who controls the ejaculation process.



The bacterial counts that we run every week are still comparable to what we had before introducing the COLLECTIS® technology. We consider hygiene is better because the semen is less exposed to the surrounded air with the COLLECTIS®.



**GD: What is the return on investment period?**

RD: The return on the investment is important. Depending on what kind of investment that is made for building transformations, the total return can be estimated between 2 and 4 years.

**GD: How was the implementation process?**

RD: That technology can make staff uncomfortable at the beginning because they might anticipate some job loss; as soon as they see that it affects mainly part time workers, the technology is well accepted. On the other hand, the employees see it as an improvement in terms of working conditions, as there is less risk when using that technology.

Genes Diffusion's team was very efficient to work with; they have specialists that can help in buildings design, staff training, technical support, etc. Using a new technology is one thing but the efficiency of it can be compromised if you don't rely on the people that can help you solve problems that always come with implementation of new ways of doing things. For us, the people at Genes Diffusion are always there to help; they can provide us with a good service, good products and good expertise.

So far we have not experienced a lot of problems with the machines yet; they are not too complicated. Again, we will have a more precise idea on their reliability when we will have a full year of operation in all of our units.

**GD: Did the system deliver as promised?**

RD: Yes, we are achieving our goals in terms of cost of labor per collection and we did it faster than expected at the beginning. The COLLECTIS® technology has and will have a positive impact on our operations for many years. It will help us in being more efficient in a more secure way and with better conditions for our workers. I will recommend this technology to anyone involved in the semen collection on a regular basis.

**It saves money and time and also improves all the efficiency of the organization.**



MONSANTO

Choice  
Genetics®

## Ken Mathias — When safety matters

Monsanto Choice Genetics® operates, among others, one nucleus boar stud in Canada. This stud supplies semen to their internal and external nucleus farms. After visiting several facilities already equipped with the COLLECTIS® technology Ken Mathias, Safety & Reproduction Manager for Monsanto Choice Genetics, decided to install the COLLECTIS® at this location in early 2005.

**Genes Diffusion (GD):** When did you decide to invest in the COLLECTIS® technology?

Ken Mathias (KM): We decided to invest in the COLLECTIS® during the fall of 2004 and actually installed the equipment in the spring of 2005.



**GD:** Why did you decide to invest in the COLLECTIS® technology?

KM: Safety was the number one reason we decided to go with the COLLECTIS®. We implemented an Ergonomic Collection Technique about 5 years ago and when I saw the COLLECTIS® I knew right away this would be the next step we needed to take to be totally hands free.

**GD:** What was your decision making process?

KM: Safety is a core value at Monsanto. When we see something that can create a safer environment for our employees, our management team is fast to get onboard and take a look at it.

**GD:** What were the key arguments in making the decision?

KM: Obviously when you invest in technology like this, there is always a discussion about the return. As mentioned earlier, our primary reason for pursuing the COLLECTIS® was to improve our safety program and we felt if this can keep us from having an ergonomic injury then it has paid for itself.

**GD:** Did you have to make any modifications to your building?

KM: We had to redesign our collection pens to accommodate the COLLECTIS®. At first we were a little reluctant because we didn't know how the boars were going to react to not only changing the collection dummies, but also reconfiguring the collection pen. When it was all said and done, the boars didn't seem to mind and the sliding doors that were installed were a great bonus.

**GD:** Do you believe a pit design would have been better?

KM: We were unable to utilize a pit, but we were able to utilize the sliding doors that you see with a pit design. We didn't recognize it at first, but this added an additional safety feature to our program. Not only have we reduced the number of boars that are collected by hand, we have reduced the employee to boar contact and this reduces the risk of the boar falling off the dummy and landing on the employee during the collection process.

**GD:** How did you implement the transition from manual collection to the COLLECTIS®?

KM: Since we have never worked with the equipment both the employees and the boars needed to be trained. We started by training the manager and a few boars. Within a week our manager felt comfortable enough to begin training the staff and began training one person every week to two weeks until they felt comfortable. While the employee training was taking place, our manager was also training new boars. We found it was best to collect the boars for the first three collections with the hand collection method and then introduce them to the COLLECTIS®. Most of the boars did not seem to mind the change.



**GD: Have you seen an increase in number of collections per hour per employee?**

KM: Efficiency is a nice bonus, but was not a focus for us. We are still in the process of training some of our newer employees and we only have the COLLECTIS<sup>®</sup> set up in one of the two barns. However, we have not decreased the number of boars collected per person per hour and while the boar is on the COLLECTIS<sup>®</sup>, it allows the employees to train another boar or clean a pen.

For now we have not changed our organization, but we know we have created an environment that is safer for our employees.

**GD: Have you noticed any difference in semen quality after you had installed the COLLECTIS<sup>®</sup>?**

KM: We have not seen a change in semen quality. However, it does appear the ejaculates are more consistent with the doses yielded from one week to the next. We know boars will perform better for certain employees when a hand collection method is used and with the COLLECTIS<sup>®</sup> the pressure is always the same and the boars become accustomed to this.

**GD: Do you believe there is an improvement in the hygiene of the collection process?**

KM: We have always stressed proper hygiene and conduct routine semen quality evaluations through a third party as a check and balance. We anticipated that proper hygiene would be at risk and need to be modified, however we have been able to achieve the same excellent quality results after implementing the COLLECTIS<sup>®</sup>.

**GD: Have you noticed a difference in semen output per boar after the COLLECTIS<sup>®</sup> had been installed?**

KM: We haven't observed an increase or decrease, but dose volumes have been more consistent.

**GD: What was the employees perception of the COLLECTIS<sup>®</sup>?**

KM: Our employees see the value in creating a safe environment, and were willing to work with change. Sure, there were some reservations and the unknowns that come with any process change, but today everyone is on board.

**GD: How was Genes Diffusion service and support?**

KM: Genes Diffusion has been supportive from the time we began looking at the possibilities. We had to see the equipment in operation before we could consider bringing one into our stud and Genes Diffusion was very accommodating. Genes Diffusion helped us with the installation, training the stud manager, and trained a few boars.



**GD: Has the COLLECTIS<sup>®</sup> delivered as promised?**

KM: We have accomplished our goal to create a safe environment—probably even more so than we expected. I'm sure we will see more benefits as we move toward implementing the COLLECTIS<sup>®</sup> in both barns.

**GD: Would you recommend the COLLECTIS<sup>®</sup>?**

KM: The COLLECTIS<sup>®</sup> has allowed us to use technology to improve the personal safety of our employees—a core value for Monsanto. It's hard to put a price tag on safety. At Monsanto, we have chosen to invest in technology that will reduce personal injury risks. The reassurance of knowing we have a safer environment outweighs the investment cost of the machine. We did it for our employees.

If I were operating a large commercial stud I would seriously consider installing this technology. We know you get benefit from a safer work place as well as possibly gaining efficiency. Genes Diffusion allowed me to see one of these studs in operation and I saw for myself 3 employees collecting at a rate almost 3 times the industry average.



## Different Locations—Different Set Up

### Standard Pen - No Modification



*Fits any existing facility*



### Remodeled Standard Pen

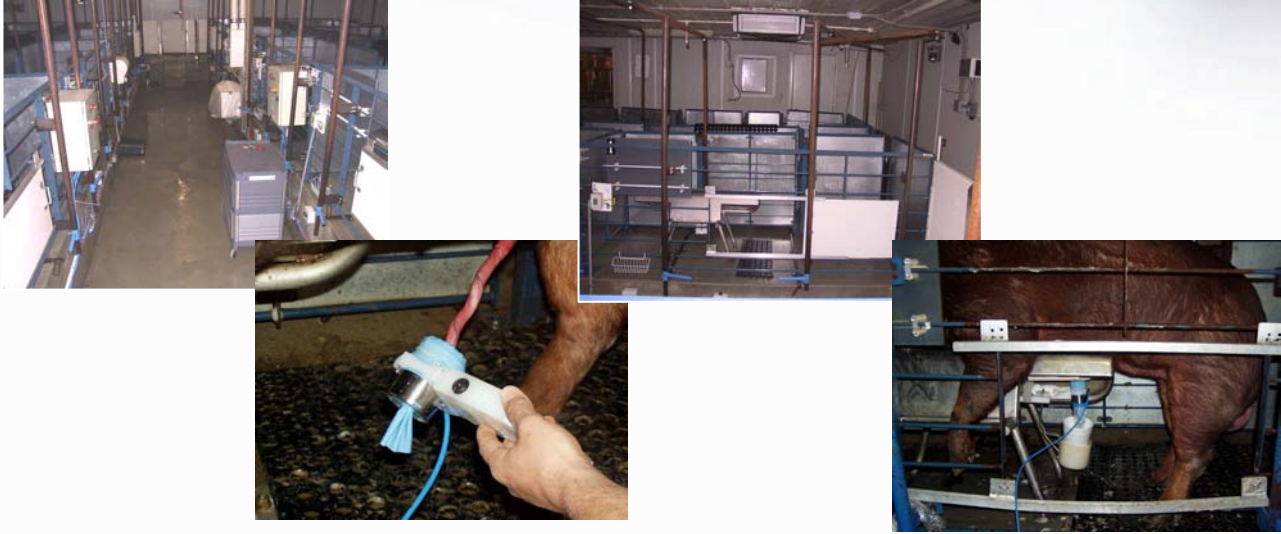


### Standard Pen with Boar Lift System





**Central Collection Room w/ Pit (8 pens)**



**Central Collection Room w/ Pit (4 pens)**



**Central Collection Room w/ Pit (2 pens)**



# COLLECTIS® — A worldwide acclaimed revolution

REPORTAGE  
36  
Cris Boudin

## CV Varkenszorg werkt met Exclusieve techniek kan tot



**UR Frankrijk**  
De machine wordt ontwikkeld door Gilles Collin, een bekende in de varkenszorg. Hij heeft jaren geleden samen met Franse landbouwers de technologie ontwikkeld voor de varkensmelk. Het is nu het resultaat van een samenwerking met de Nederlandse varkensmelkmachine ontwikkelaar, de heer Jan Sallevelt. "Het is nu het resultaat van een samenwerking met de Nederlandse varkensmelkmachine ontwikkelaar, de heer Jan Sallevelt. Het is nu het resultaat van een samenwerking met de Nederlandse varkensmelkmachine ontwikkelaar, de heer Jan Sallevelt."

Varkensbedrijf  
Dec. 2002

Die Silbermedaillen

Absoluten



Met Collin, is die Producties, in die Spansme...  
De machine wordt ontwikkeld door Gilles Collin, een bekende in de varkenszorg. Hij heeft jaren geleden samen met Franse landbouwers de technologie ontwikkeld voor de varkensmelk. Het is nu het resultaat van een samenwerking met de Nederlandse varkensmelkmachine ontwikkelaar, de heer Jan Sallevelt. "Het is nu het resultaat van een samenwerking met de Nederlandse varkensmelkmachine ontwikkelaar, de heer Jan Sallevelt."

Der fortschrittliche Landwirt  
Nr 21 – Nov. 2004

## Options for Al equipment

### Sperm 'milking machine' for boars



Developed, tested and approved by Gilles Collin, a well-known expert in artificial insemination with 20 years of experience, the sperm collection technology is now available for boars. The machine is now available for boars. The machine is now available for boars. The machine is now available for boars.

International Pig Topics  
N° 4 - 2004

## spermamelkmachine zes beren per uur "melken"



achter de draaitafel moet zitten slaag je er toch niet in om een rechte pot of vaas te maken."

**Tijdswinst**  
Dat het systeem in principe in Koullie werd geïntroduceerd is niet overbodig.

"Sinds we hier vier jaar geleden gestart zijn," zegt Jan Sallevelt, "zijn onze activiteiten sterk gestegen. Wij zien ook voor de toekomst nog andere groeikansen. Groeien betekent natuurlijk inzet van meer arbeid. Maar ter zelfdertijd staan we voor de uitdaging om ook de kosten te drukken. Met de aanschaf van deze spermemelker, kostprijs zonder aanpassingen in de stal ongeveer 15.000 euro, moet er geen bijkomende knoest komen. Vandaag kunnen we met deze machine vier tot zes beren per uur behandelen. Dat is een tijdsbesparing van 60%. Met de steeds naar veldrijke techniek om per zaadstrome het aantal inseminaties te verhogen - we halen nu 100 tot 200 doosjes per sprong - betekent dit samen met de nieuwe machine een belangrijke kostenbesparing. De uiteindelijke bedoeling is om zoveel mogelijk kwalitatief sperma van de beste beren ter beschikking te stellen van de varkenshouders."

**Voorbeeld**  
Na de gebruikelijke sanitaire plichtplegingen kunnen we aan de lactatie beginnen. De machine zelf oogt niet direct spectaculair. Hart van het toestel is een vierkant kastje voorzien van een paar slampjes dat tegen de muur hangt en dat verbonden is met de opvangbeker waarvan een aantal buisjes gekoppeld is. Voor iedere spermadozine wordt uiteraard een nieuwe voering in de beker gebracht. Beren die het systeem al enkele malen hebben ervaren laten zich bijzonder vier conculen. Ook hier speelt weer de handigheid van de begeleider een belangrijke rol maar zoals we zal konden vaststellen heeft de man in kwestie die knepen onder de knie. Straks mag hij op zijn paspoort als beroep 'spermamelker' aanbrengen.

Varkensbedrijf  
Dec. 2002



# COLLECTIS<sup>®</sup> specifications

One COLLECTIS<sup>®</sup> set is made of :



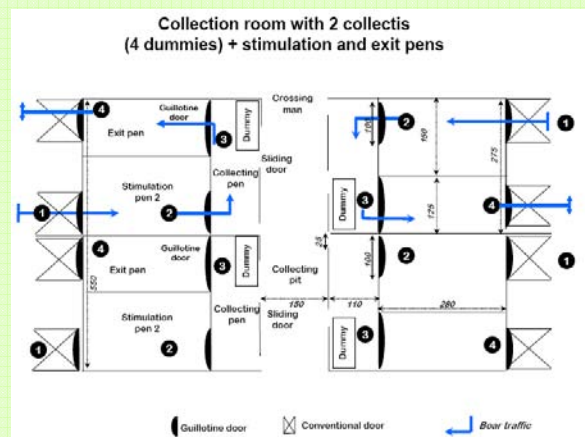
- 2 specific dummies for COLLECTIS<sup>®</sup> vagina



- 1 regulation unit with automate and software



- 6 artificial vaginas



- Specific study of COLLECTIS<sup>®</sup> implementation

- Installation by our technician : 1 day
- Training of your operators by our technician : 2 days

**One COLLECTIS<sup>®</sup> set is for 60 to 125 boars\***

**\* depending on your labor organization and building layout**



# COLLECTIS®

