



ICAR Guidelines on Sexed Semen and Insemination  
Technologies in Dairy Cattle  
乳牛精液選配國際規範研討會  
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Cervical Caring and Artificial Insemination in  
Cattle by Mobile Vision Gun  
乳牛人工授精目視鏡導護子宮頸口

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1

## Background



Traditional AI



Bovine video-assisted insemination system

2

## Introduction

- The most recent technology in cattle artificial insemination.
- AlphaVision is a bovine video-assisted insemination system.
- Developed and manufactured in France by IMV Technologies.
- Before the insemination : check the cervical involution of your cattle or check for the presence of heat mucus.
- During insemination: it makes it easier to locate the cervix rapidly so as to conduct the procedure.
- After insemination: with its built-in application on the vision terminal provided, you can record the coupling of the animals as well as high definition photos of the cervix. The photo library accessible on the terminal also allows you to share the images with your veterinary surgeon to carry out any diagnostic required.

3

## Bovine video-assisted insemination system



4

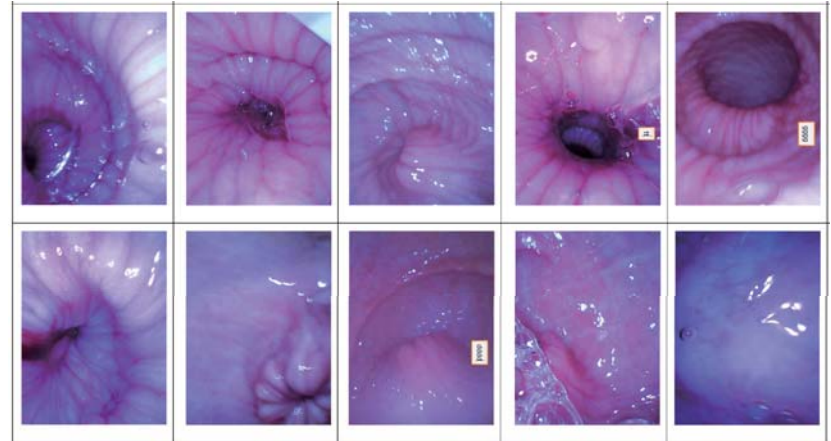
## BEFORE INSEMINATION

- Check the involution of the cervix and quality of cervical mucus to determine if the female is fit to be inseminated
- Allow timely diagnosis of potential reproductive issues (i.e. metritis)
- Record animal identification and images for tracking or analysis



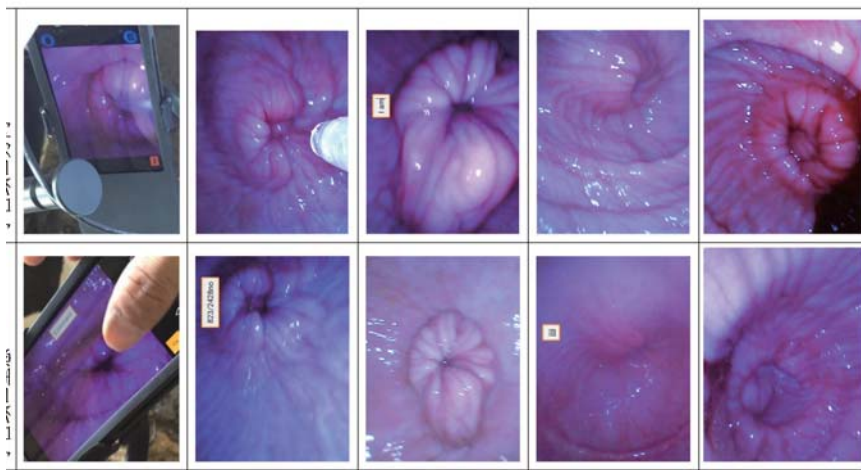
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## The vagina and cervix and quality of cervical mucus



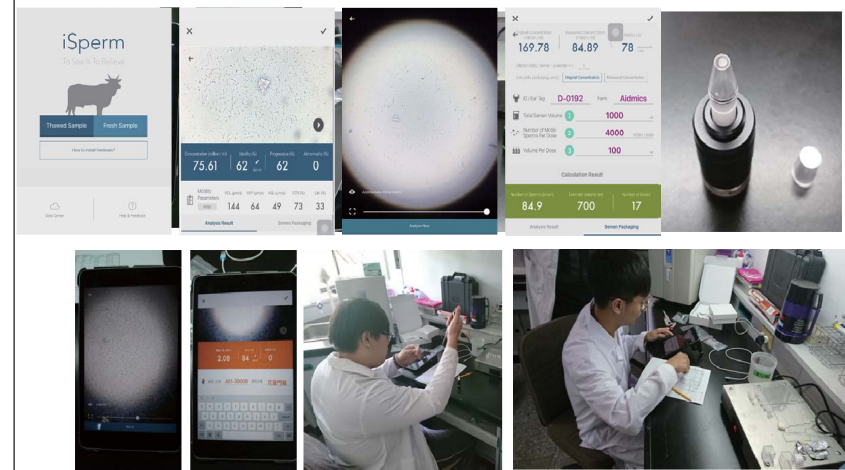
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## Record animal identification and images for tracking or analysis



7

## CASA assay sperm motility before AI



8

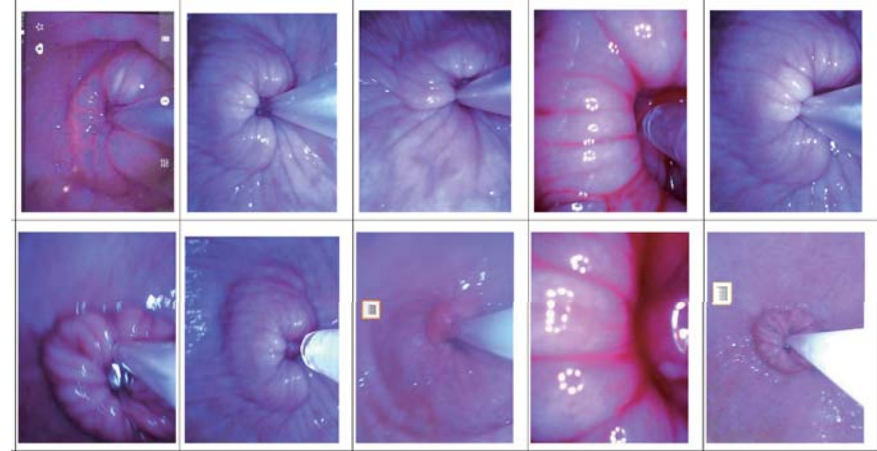
## DURING INSEMINATION

- Facilitate insemination in difficult-to-breed females
- Improve animal well-being by reducing trauma to the reproductive tract
- Reduce technician arm fatigue and animal discomfort by decreasing duration of rectal palpation



9

## INSEMINATION in dairy farm



10

## AFTER INSEMINATION

- Confirm quality of insemination
- Access recorded data and images for monitoring and traceability
- Share data for veterinary diagnostics or technician training



11

## Advantages of using video-assisted insemination system

- ✓ Easy
- Lower down the operation difficulty than traditional AI.
- ✓ Efficiency
- Improve pregnancy rate by better selection of females
- ✓ Comfort
- Improve the well-being of the animal and user
- ✓ Knowledge
- Make better decisions

12

# Training course to dairy cow farmer in 2018



# Training course to dairy cow farmer in 2018



## Bovine video-assisted insemination system(1/4)

		(1) <p>先將左邊插頭打開</p> <p>連接線路</p>	(2) <p>右側插頭裝好手機</p> <p>啟動程式</p>
(3) <p>組裝游針筒</p>	(4) <p>將AlphaVision電筒朝下</p> <p>潤滑管尖端4公分左右塗抹潤滑劑</p>	(5) <p>INSERT AlphaVision</p> <p>以45度角插入陰道</p>	(6) <p>OPEN THE ALPHAVISION CAMERA TO CAPTURE VIDEO</p> <p>使用攝影機拍攝子宮頸部</p>
		<p>點開IMAGE，來呈現影像。</p>	

## Bovine video-assisted insemination system(2/4)

(1) <p>Mount the AlphaVision device on the cow</p>	(2) <p>固定固定</p>	(5) <p>HEAT THE SPERM COOLER</p> <p>將裝有Kambicolor的精子放入水浴</p>	(6) <p>DRY AND PREPARE THE STRAW</p> <p>將精液45度風乾</p>
(3) <p>先檢查Kambicolor設備</p>	(4) <p>固定固定</p>	(7) <p>DRY AND PREPARE THE STRAW</p> <p>以雙竹筒將精液對準</p>	(8) <p>Mount the AlphaVision device on the cow</p>
(9) <p>INSERT THE STRAW</p> <p>將雙竹筒插入</p>	(10) <p>調整雙竹筒，使距離45度插入</p>	(13) <p>PUSH THE STRAW INTO THE CERVIX</p> <p>將雙竹筒推入子宮頸部，注意不要移動或晃了再</p>	(14) <p>CHECK THE ALPHAVISION DEVICE</p> <p>用手機攝影機檢查子宮頸部</p>
(11) <p>INSERT AlphaVision</p> <p>調整雙竹筒，距離45度插入</p>	(12) <p>調整雙竹筒，使距離45度插入</p>	(15) <p>PUSH THE STRAW INTO THE CERVIX</p> <p>將雙竹筒推入子宮頸部，注意不要移動或晃了再</p>	(16) <p>CHECK THE ALPHAVISION DEVICE</p> <p>用手機攝影機檢查子宮頸部</p>

# Bovine video-assisted insemination system(3/4)

1. Clean the animal's vulva by using the same protocol as a standard insemination.  
清潔外陰

2. Place B-LUBE gel around the speculum for about 10 cm at its end. 在擴張管末端10公分左右塗上膠



3. Part the vulva. Position the end of the speculum against the vulva. Point the camera upward at a 45° angle. 把擴張管末端朝向外陰，鏡頭向上45度角



4. Gently insert the speculum, aligning it parallel to the vagina. 輕輕的將管子插入，與陰道平行進入



5. Move toward the uterus cervix, by using the image received on the terminal to help you. 以終端影像協助您將管子移動往子宮頸



6. Insert the Kombicolor insemination syringe into AlphaVision. 將Kombicolor insem 授精槍插入 AlphaVision



From IMV Co.

# Bovine video-assisted insemination system(4/4)

7. Push the graduated extension until the insemination sheath appears on the image at the entrance to the cervix. 輕推刻度手柄，直到影像中子宮頸入口處出現授精槍



8. Place the Alpha insemination sheath opposite the entrance to the cervix and insert it into the cervix while continuing to push the graduated extension. 將授精套護鞘置於子宮頸入口，推動刻度手柄使其插入子宮頸，特別注意不要強插，一格度等同於一分

Important: Do not force!  
1 notch = 1 cm



9. Check the correct position of the end of the insemination syringe by rectal palpation. If the syringe is still in the cervix, move cervix over the syringe. 以直腸觸診方式確認授精槍末端已通過子膺幾達正確授精位置，如還在子宮頸內則繼續深入

10. Inseminate by gently pressing the rod until it stops and be careful not to move the graduated extension. 輕按下授精棒，注意不要移動刻度手柄

11. After fully emptying the straw, remove AlphaVision. 在完全注精完畢後取出 AlphaVision

12. Check the entrance of the cervix to ensure that no semen flows back. 檢查外陰確定沒有精液倒流

From IMV Co. 18

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