

ACUBREED

Ovulation Computer

Instruction Manual



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Welcome

Animark is pleased to welcome you to our growing family of satisfied customers.

Our company was founded on the principles of quality, integrity and service. As we grow, we continue to practice these principles.

Animark pioneered and developed ultrasound pregnancy detection for animals. Among our many other successful instruments are:

Boveq

Pregnosticator

Pregmatic-3

Ovatest

We have since added several other products to our line, including the new Pregtest and Pregscan external ultrasound pregnancy detectors. Each type of Animark instrument can do its individual function better than any other product in its class. Better accuracy, better performance, better value.

With the purchase of your AcuBreed ovulation monitor, you have joined a worldwide group of progressive breeders and veterinarians who are realizing the benefits of today's electronic technology applied to animal sciences. Animark's continued research and development has made us the world leader in the field. Our growing list of enthusiastic customers is testimony to Animark's dedication to integrity and service.

To obtain the maximum benefits from your AcuBreed ovulation monitor, please read this manual carefully before attempting to use the unit.

Thank you for the confidence you have shown in Animark with your recent purchase.

We look forward to serving you in the future. Please let us know if we can be of assistance at any time.

Introduction

Many breeders rely on heat indications to determine the best time to breed their animals. Heat can be an indication that ovulation is imminent but it does not always correspond to ovulation. Ovulation can actually take place before, during, or after visible heat. The Animark AcuBreed Ovulation Computer's technology is based on the fact that the chemical and electrical characteristics of mucus in a healthy animal's vagina will change in a predictable pattern from the beginning to the end of an ovulation cycle. It has been established that, as a result of the cyclic hormonal changes, there are also changes in electrolytes within the vaginal and cervical mucus of most mammals. By measuring and recording these electrolyte changes, you can predict and confirm ovulation to identify the best time to breed your animals.

Why The AcuBreed Works for Ovulation Prediction

The AcuBreed instrument utilizes the principles of electricity to identify electrolyte concentrations in the animal. Hormonal changes during the reproductive cycle (see Fig 1-1) have a direct impact on the levels of electrolytes present. During the reproductive cycle, the electrolyte readings of the vaginal mucus will change in direct relation to cyclical changes in hormones like estrogen and progesterone. Just before ovulation, there is a flood of estrogen, which lowers AcuBreed readings, and indicates the onset of ovulation. This is followed by a shift to progesterone dominance, causing a rise in the readings and confirming ovulation. The AcuBreed accurately measures these changes and displays them as a numerical reading and breeding status. By tracking these readings, AcuBreed can effectively identify when ovulation is expected (up to 5 days in advance) as well as confirm when ovulation has occurred. This allows you time to plan for the insemination to correspond to the lowest reading. With the AcuBreed's ease of use combined with a simple daily reading, you can identify all of your animal's reproductive cycles easily. Incorporated into a well-managed breeding program, the AcuBreed will prove to be an invaluable tool for increasing conception rates.

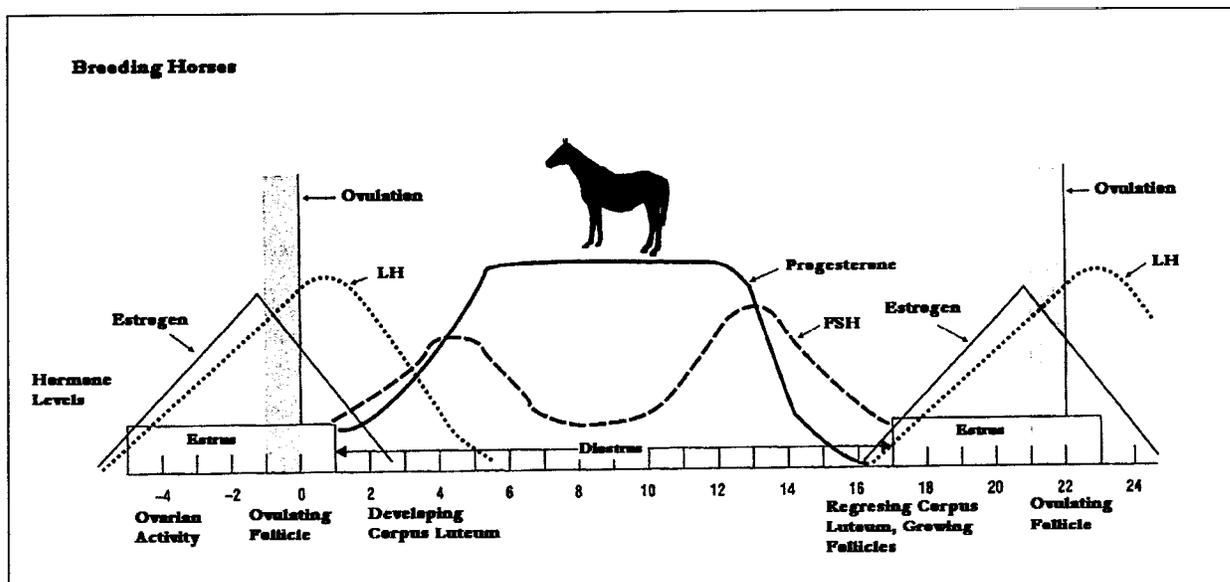


Fig 1-1

Conception Basics

After a follicle is selected and released into the fallopian tube, the Luteinizing Hormone (LH) allows the egg to be released from the hard follicle. An egg is viable for fertilization for only a few hours once released from the follicle. If the egg is not fertilized within this time, you will have to wait for another cycle. Therefore, you must breed before actual ovulation for conception to occur. Using the AcuBreed to predict and identify when your animal will ovulate will reduce covers, and improve conception rates. The AcuBreed is an essential breeding tool, like a thermometer or speculum. Like any new tool, you need to take the time to learn how to use it and increase your proficiency. It is not necessary to be a veterinarian; any knowledgeable breeder may use the AcuBreed.

During the course of a normal reproductive cycle in any mammal there are several things that happen prior to ovulation. The first notable and measurable activity is a flood of estrogen into the animal. This precedes a release of LH. The purpose of this hormone is to dissolve the follicle holding the egg. When the follicle is dissolved, the undersized egg is released. The viability of the egg after release can be as few as 8 hours. The ideal scenario for fertilization is having semen present 12 to 24 hours before or as soon after the release of the egg as possible. Having fresh, active semen waiting is ideal. This means that the best time for breeding or inseminating is the DAY BEFORE ovulation or as close to it as possible. Research has shown that if an egg is fertilized later in the egg's maturity, the chances of absorption or abortion are much greater. The percentage of aborted pregnancies in these cases has been shown to be as high as 34%. By charting your readings for each animal with the AcuBreed you can get the advance notice required to inseminate before actual ovulation. In summary, you want to make sure that fresh active sperm is available to the egg as soon after the egg's release as possible, but not later than a few hours. This is why, from experience, many breeders breed every other day during

heat. This practice can be both wasteful and expensive. By tracking the readings of the AcuBreed, you will accumulate practical information allowing you to make informed decisions about when to breed your animals.

AcuBreed Packaging List

With the purchase of an AcuBreed Ovulation Computer, you will receive the following items that will allow you to accurately take a fertility reading and track the fertility status of your livestock. Please take a moment now to insure that you received all of the following:

- One (1) AcuBreed Unit
- One (1) AcuBreed Probe
- One (1) BreedTrak software
- One (1) 9 Volt Battery
- One (1) Carrying Case
- One (1) Instruction Manual and Warranty Card
- One (1) Quick Reference Guide
- One (1) 2 liter bottle for Performance Testing Fluid



AcuBreed Instrument Features

The AcuBreed has a very simple interface for ease of use in the field. On the face of the instrument there are six buttons. On the right side is a plug for the sensor and on the top there is a plug for the download cable into the BreedTrak software.

ON / OFF Buttons

The ON / OFF buttons are located on the top left and top right of the device. They are labeled as ON / OFF. Push the ON button once to turn the device on. Push the OFF button once to turn the device OFF.

YES / NO Buttons

The YES / NO buttons are located on the middle of the device, right below the ON / OFF buttons. They are labeled as YES / NO. Push the YES button once to enter the current command request. Push the NO button once to cancel the current command request. Most prompts require a YES keypress to continue.

NEXT / PREVIOUS Buttons

The NEXT / PREV buttons are located near the bottom of the device, right below the YES / NO buttons. They are labeled as NEXT / PREV. Push the NEXT button to cycle through the menu tree or increase a letter or number. Push the PREV button once to go back to the previous screen or menu item or decrease a letter or number.

PROBE JACK

Plug the sensor or probe cord into this jack on the right side of the unit to take a reading. Make sure the device is off before connecting the probe cord to the jack. Do not bend the cord or stress the jack.

DOWNLOAD JACK

Plug the download cable into this jack on the top of the unit to take download data to a PC. Make sure the device is off before connecting the download cable to the jack. The other will go into the serial port on your computer. Do not bend the cord or stress the jack.

BATTERY

The AcuBreed uses a regular 9-volt battery. This is placed in the back of the unit behind the small cover. Make sure the battery is facing the correct way (see the diagram in the box) and is new. Battery failure will cause a loss of data.

MAIN MENU

Take Quick Reading

This menu option allows you to take a single reading on an animal that will not be stored in memory or associated with any of the animals in the AcuBreed memory. You can use

this option if you want to take a quick reading for your own record, or do a few “practice” readings to check for consistency before an actual reading is logged. Additionally, you can use this menu option if you want to chart readings manually for additional animals that are not stored in the AcuBreed memory, as if you were using the Animark Ovascan.

Press ON, then NEXT, then YES to take a quick reading. The device will prompt you to connect the sensor. Connect the sensor and press YES. Then you will be prompted to place the sensor. Insert the sensor and press YES. AcuBreed will then display the vaginal reading (VR) and the time the reading was taken. Press YES now to return to the main menu.

(Please Note the probe must be cleaned, disinfected, and rinsed thoroughly between each animal’s readings. See the Probe disinfection section.)

Enter Animal IDs

This menu option will allow you to enter IDs to associate with each of the animals you would like to monitor. All animals stored in the AcuBreed memory are referred to by their ID. You can enter up to 10 animal IDs to be associated with 10 animals you wish to breed. Press YES to select this option. Scroll through the list of animals by pressing NEXT. When you wish to enter or change an ID for an animal press the YES button. Then use the NEXT/PREV buttons to select a letter or number and then press YES to accept it. Use YES again on a blank space when you are finished defining that animal ID. Either continue to enter animal IDs or press NO to return to the Main Menu.

Select Animal

This menu option allows you to choose from the list of animals in the AcuBreed memory. Animals are selected from the alphanumeric ID associated with each animal. Use the NEXT button to scroll through the list of animals. Press YES to select an animal. Now everything you do will relate to that specific animal, until another animal ID is selected. If you receive the prompt “No animals defined”, please proceed to the “Enter Animal IDs” section and define your animals first.

Take Animal Reading

This menu option will take a reading and associate the reading with the current selected animal. To take a reading for a specific animal, you must first select the animal as in the section above. Now just press NEXT to the “Take Animal Reading” prompt and press YES. The AcuBreed will prompt you to connect the sensor. Connect the sensor and press YES. Then you will be prompted to place the sensor. Insert the sensor (see below) and press YES. AcuBreed will then display the animal ID and vaginal reading (VR). Press YES now to return to the main menu.

Calculate Fertility

This menu option will calculate the fertility status of the current selected animal based on the readings for that animal stored in memory. The device will display one of three levels of breed status: “Not ready to breed”, “Breed in 2-4 days”, “Breed NOW.” If there are not enough readings associated with that animal (at least three), the device will display “Not enough readings.” Breed according to the message displayed.

View, Delete, or Download

This menu option will allow you to review readings of a particular animal, download readings for all animals or a particular animal to your computer, or delete readings for a particular animal. Scroll through these options by pressing NEXT. Select your desired menu option by pressing YES. The following describes the sub-menu options in this prompt in greater detail.

Review Readings

Press YES to review readings that have already been entered for a particular animal. Press NEXT and then YES to select the animal you would like to review. Press NEXT and PREV to scroll through the readings. Press NO to return to the Main Menu.

Download Readings

Press YES to this prompt to download readings for a particular animal to the BreedTrak companion software that you have already installed on a Windows based computer. Press NEXT and then YES to select the animal for which you would like to download data. Press YES to confirm the download, connect the cable to your serial port on your PC (or USB port with the optional adaptor), open the companion software program, select the read AcuBreed option and press YES. Now press YES to perform the download. AcuBreed will return to the View, Delete, Download sub-menu (review readings).

Note: Please see the BreedTrak instructions for more information.

Download All Readings

Press YES to this prompt to download readings for all animals to the companion software that you have already installed on a Windows based computer. Press YES to confirm the download, connect the cable to your serial port on your PC (or USB port with the optional adaptor), open the companion software program, select the read AcuBreed option. Now press YES to perform the download. AcuBreed will return to the View, Delete, Download sub-menu (review readings).

Note: Please see the BreedTrak instructions for more information.

Delete Readings

Press YES to select the delete readings option. Press NEXT and YES to select the animal for which you wish to delete readings. Press YES to confirm the deletion. The

AcuBreed will prompt you with “readings Deleted”. Press YES to return to the View, Delete, Download sub-menu (review readings).

NOTE: Although readings are deleted the animal ID will remain. If you wish to use that position for a different animal, use the Define Animal IDs option to change the ID, otherwise the ID will remain and you will still be able to take readings for that animal.

Set the Clock

Press YES to select this option that allows you to set the date and time, which is useful for tacking when your animal was checked. Use the NEXT/PREV button to set the correct number. Use YES to accept the setting and move to the next variable (Year, Month, Day, Hour, Minute). Be aware of the A (AM) or P (PM) setting on the clock. You can press and hold a key to move quickly through the numbers.

Contact Animark, Inc.

This menu option allows you to retrieve the contact phone number and website address for Animark, Inc.

Note: please also use the Quick Reference Guide for assistance with menu options.

AcuBreed Setup

When you first place the battery and turn the AcuBreed on, you will see the following:

AcuBreed Set Clock

Press YES to this option to enter the Year, Month and Day, Hour and Minute. Use the NEXT/PREV keys to change the number and the YES key to accept the entry. When setting the hour, use the NEXT/PREV keys to set the hour and the A/P (AM/PM) indicator, press YES to accept each entry.

Now you will see the following:

AcuBreed Main Menu

You can get started with AcuBreed readings immediately by pressing the NEXT key and YES to “Take Quick Reading”. Just connect the sensor, press YES, place the sensor and press YES again. The AcuBreed will now display the reading and the time it was taken. Record this reading on a chart for that animal and follow the directions for interpreting manual readings in this manual to determine the best time to breed. Please remember this is just a quick reading and it will not be stored in the AcuBreed memory.

To track multiple animals, you need to first define each animal by an identification name or number (ID) and then select that animal to take a reading. All functions from that point on will have to do with only that animal.

To enter an animal ID, press the NEXT key to the “Enter Animal ID” prompt and press YES, press YES again to store an animal ID in position 1. You will now see the following:

Animal: 1. A

Use the NEXT/PREV keys to select the first letter or number of the Animal’s ID and press YES. To reach numbers quickly, press the PREV key. Continue with this method until the animal ID has been entered and press YES on a blank space to accept that ID and move on to entering the next ID. Press NO on a blank ID to finish entering IDs and return to the Main Menu.

Once the animal IDs are defined you can just select an ID whenever you want to work with that animal. To select an ID, press the NEXT key to get to the “Select Animal” prompt, press YES and use the NEXT/PREV keys and then YES to select the animal.

To take a reading for the selected animal, press the NEXT key to the “Take Animal Reading” prompt and press YES. Now just connect the sensor, press YES, place the sensor and press YES again. This reading will be stored in the AcuBreed memory for that animal ID and if there are enough readings, the current fertility for the animal will be displayed. Remember when you move to the next animal to select the new animal’s ID first, before taking a reading.

Once you have taken at least 3 consecutive daily readings, you can determine if the animal is ready to breed. Just use the NEXT key to move to the “Calculate Fertility” option and press YES. You will get one of the following prompts:

- **Not enough readings** – you need at least 3 consecutive daily readings on an animal to determine their fertility
- **Not Ready to Breed** – continue consecutive daily readings until the prompt changes to Breed in 1-3 days or Breed Now.
- **Breed in 1-3 days** – the animal has started producing estrogen and will likely ovulate in 1-3 days.
- **Breed Now** – the animal is expected to ovulate within 12-24 hours and it is the ideal time to breed.

By taking daily readings and tracking you animals with AcuBreed, you should be able to enjoy very high conception rates for your herd.

The final option in the menus allows you to review readings, download readings to the BreedTrak software on a PC or delete readings. Please see the “View, Download and Delete” section of this manual for more information on those features.

Taking Readings

To have the most accurate data, it is important to remove any variables from the reading process. Consistency is key. The more accurate your data, the better your results will be. As you take and record readings for each individual animal, make sure the conditions in which you take your readings are the same each day. For example, always take your readings at the same time each day if possible. This ensures a similar condition and more accurate readings. Readings can vary slightly throughout the day based on activity, diet, urination and other variables. See below for more details on taking readings with the AcuBreed.

Probe Disinfection

Before you use the AcuBreed probe, visually inspect the probe for any oxidation (yellowing of the metal) or any other discoloration. If oxidation or discoloration is detected, the probe will need to be thoroughly cleaned, disinfected and thoroughly rinsed prior to introduction to your animals. Once the entire probe surface is completely cleansed of oxidation, it must be disinfected. Oxidation will not hurt your animal but will

affect your readings. Animark recommends the use of "Novasan" or any other similar disinfectant. If you are unsure what to use, ask your veterinarian or veterinary supply outlet to recommend an appropriate disinfectant or contact Animark.

Between animals you will want to clean any mucus from the probe, disinfect and again thoroughly rinse the probe. Disinfectant can irritate the vaginal lining and can also act as a spermicide in your animals. That is why it is so important to make sure the probe is 100% clean between readings. See steps below.

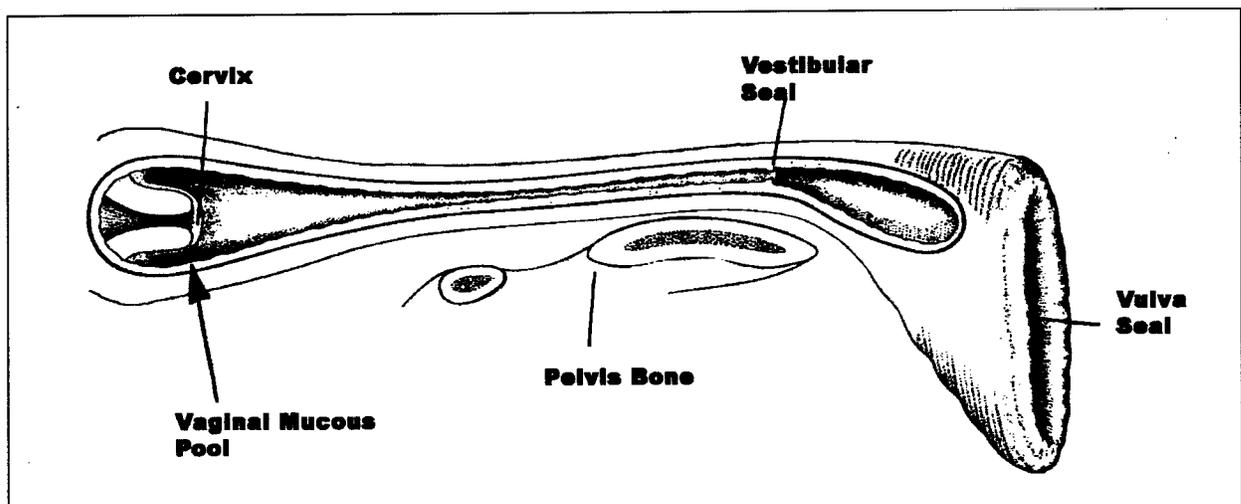
1. **WIPE** the entire surface of the probe from the handle to the tip with a dry paper towel to remove any mucous.
2. **WIPE** the entire surface of the probe from the handle to the tip with an undiluted disinfectant applied to a moistened paper towel or disposable wipe such as a gauze square or cloth baby diaper. It is not necessary to disinfect the rubber handle of the probe.
3. **SOAK** the probe by immersing it in a diluted solution of disinfectant made up according to the manufacturer's directions and allow it to stand for at least 30 seconds.
4. **RINSE** the probe thoroughly with clean running water. This is a critically important step as the disinfectant could irritate or inflame the animal's vagina as well as kill any sperm introduced after the measurement.
5. **WIPE** down with a dry paper towel.
6. Repeat these steps before testing each animal.
7. Please Note: After each day's use, clean and dry the probe and store the meter and probe in the case. Oxidation may be reduced by storing the probe in the plastic sleeve.

Using The AcuBreed With Mares

In order to effectively predict the onset of ovulation, mares should be checked daily during expected fertile times. To prepare the mare for probe insertion, clean the vulva with soap and water and/or a tamed iodine spray, or as your veterinarian would recommend in preparation for a specular exam. Insert the disinfected probe between the parted vulva. Take care not to spread the vulva so much that air is allowed to enter the vagina. The introduction of air can alter the accuracy of the readings. Insert the probe at a slightly upward angle to clear the hip skeletal structure, then lift the handle slightly and gently slide the probe into the vagina along the horizontal path until a firm resistance is felt. The probe should be touching the cervix. Raise the handle of the probe slightly upward to drop the tip of the probe into the vaginal pool located just below the cervix (See Fig 2-1). Twist the probe for 10-15 seconds to fully coat the sensor portion of the probe with vaginal mucus then hold for a few seconds while the reading is taken (see above or the Quick Reference Guide for commands to use when taking a reading).

If you have at least three consecutive daily readings, use the Calculate Fertility option to determine the breeding status of the mare. Based on the response to Calculate Fertility, do the following:

- Not Ready to Breed => Check again in 12-24 hours
- Breed in 2-4 days => Estrogen release has started, watch carefully for a rise in readings
- Breed Now => Animal is expected to ovulate within 12-24 days, breed as soon as possible
- Not Enough readings => Take at least 3 consecutive daily readings before using this option



Abnormal Conditions (as indicated by AcuBreed readings)

1. High readings / Air introduced.

Some mares maintain a continuous reading well above the norm, even as high as 400, usually indicating that air is present in the vagina. Whenever this occurs, it prevents good contact between the surface of the probe and mucus in the vaginal tract. If air is accidentally introduced with the probe, it can be manually expelled via rectal palpation or, if a palpator is not readily available, let the animal walk around for an hour or two before trying to take another reading. Normal activity will generally result in the natural expulsion of the air. If the introduction of air continues to be a problem, you may want to try the following tip. Take a new standard sponge and cut a small hole in it. Make sure the hole is smaller than the probe end. Wet the sponge and place against the vulva. Slowly insert the probe through the hole and into the animal's vaginal tract. This should reduce the amount of air being introduced. In rare occasions, a "wind sucker" that has chronic aerovagina will require treatment before the AcuBreed device can be used with good results.

2. Ovulatory disorders

The AcuBreed may not be able to specifically identify the individual disorder present but will certainly indicate there is a potential problem. Please consult your veterinarian if you suspect any of these disorders. Your vet can usually diagnose and treat any of these rare disorders.

- Silent Heat - This is the most common disorder. See "Silent Heat" below.
- Anovulation - Heat without an actual ovulation.
- Lutenized unruptured follicle - This occurs when the follicle is present and continues to grow but is never released.

3. Silent heat

A "silent heat" mare is usually an animal that does not show any readily observable heat indicators or responses when teased. Using the AcuBreed to actually detect when she does ovulate is just as simple as that of any other mare. Take readings every day just as you would a regular mare. Mares showing no change in AcuBreed readings may have a persistent corpus luteum or a lutenized unruptured follicle. Please consult your veterinarian if you suspect any abnormal ovulatory conditions other than a silent heat.

4. Abnormally low readings

Abnormally low readings may be caused by a continuing uterine infection. These readings can also be expected if organic material is being sloughed after parturition during the foal heat.

5. Continued abnormally low readings

Continual very low readings can also be caused by urine in the vagina. The urine pooling mare should be treated for this condition before normal conception can be expected, and certainly before normal readings can be taken with the AcuBreed instrument.

6. Twin ovulation

It is possible for some mares to produce two eggs during the ovulatory cycle. This is the result of the mare ovulating from two ovaries within a two or three day period. In such cases, especially when the mare has a history of twinning, the Pregscan pregnancy detector or palpation should be used to confirm conception of one or both of the eggs.

7. Seasonal variations

In the mare, there is a tendency for the pre-ovulatory drop to be rather shallow at the beginning of the season and then become much deeper later in the year. For example, when the reading remains consistently around 225, during February and early March, one might see readings drop to only 80 to 120 prior to ovulation. Starting around mid-March until mid-May, they may be seen to drop to a range of 60 to 90, and after about May 15th, they may be seen to be much lower to around 35 to 60. You may also observe that during the early part of the breeding season, some mares seem to tease warm to hot and will remain in the range of 195 to 120 for many days, sometimes even several weeks. Readings should be continued daily, without breeding, until a reading less than 120 is seen. Of course, these specific months do not apply for users in the Southern Hemisphere, where for February it would change to September, etc.

8. Introduction of drugs / hormones

Introduction of drugs or hormones can and will affect your AcuBreed readings. If your veterinarian is introducing drugs or hormones into your animal, follow the veterinarians' guidance and instructions for breeding. The AcuBreed unit may not show a normal dip pattern as these drugs or hormones tend to by-pass the mare's natural estrogen release pattern and could lead to false indications by the AcuBreed.

Using the AcuBreed instrument with cows

The Cow's Cycle

Cows will usually cycle every 21 days. The estrus period and visible heat usually lasts 12- 24 hours. The cow's ovulatory cycle can be tracked and ovulation predicted and confirmed just as with the horse (See "Why The AcuBreed Works for Ovulation Prediction" section) or almost any other mammal for that matter. Most of the time, the hormone that triggers ovulation (luteinizing hormone, or LH) peaks around mid-estrus, and the lowest AcuBreed readings will be found during that time. There is usually a direct correlation with the LH peak. (See Fig 3-1). Studies have shown that for the highest conception rates, cows should be bred during this time. Ovulation will usually occur within 24 hours after the LH peak or from the AcuBreed's lowest reading.

Using the AcuBreed for your particular operation

The AcuBreed instrument is a tool like any other in your breeding arsenal. You will need to determine the best time and place to take your readings to ensure maintaining efficiencies with your standards of operation. The following section is for general suggestions only. For example, the AcuBreed can be used as a culling tool if the animal is still ovulating after two cycles. It can also be used to screen for mastitis or ovulatory disorders. Dairy operations will clearly differ from other cattle operations. These recommendations are based on an overall objective of achieving a 12-month calving interval and a higher than average conception rate.

1. *Cows detected in standing heat*

On average, 50% -60% of cycling cows are detected in heat using traditional methods. Provided an adequate first service conception rate is being achieved, these cows may be bred in the usual manner. However, if you feel that a higher conception rate is desirable, the following procedure may be useful:

- a) Take an AcuBreed reading soon after the cow is first observed in heat.
- b) Take a second AcuBreed reading after 6 -12 hours.
 - If reading is similar (+ or -10) to first reading, then breed now.
 - If reading is lower by 10 or more, take an additional reading in 4 -6 hours. Breed when reading is similar to or higher than previous reading.
 - If reading is higher by more than 10, cow is ovulating early and should be bred immediately. If cow returns to estrus, remember to breed earlier than usual at the following estrus.

- a) Follow post-breeding check with Pregscan external ultrasound.

2. Cows not detected in heat

Cows not detected in heat by 40- 50 days post-calving should be monitored with your AcuBreed unit. Cows in the luteal phase of the cycle (usually from the third to sixteenth day of the cycle) will give relatively high AcuBreed readings (90 or greater). Monitor these cows as follows:

- a) Take readings every other day.
- b) Readings will begin to decline 2 -3 days prior to estrus. Take readings daily at this stage.
- c) When readings have declined to 50 -60, cows must be probed at least morning and evening, or preferably every 6 -8 hours.
- d) When a reading does not show a decline from the previous value, or is slightly higher, the cow should be inseminated.
- e) Follow post-breeding check with Pregscan

3. Post-Breeding check, late ovulation

Late or delayed ovulation: An AcuBreed reading should be taken 24 hours after breeding. Cows ovulating normally will show a reading higher than the one taken at time of insemination. However, late ovulators will usually have a reading similar to that at the time of breeding. If a high probability of conception is desired, you may elect for a second breeding of these cows at this time.

After 22 days you should check the bred animals with the Pregscan to verify conception. This will minimize your open animals and give you time to re-breed. See the last page of this manual, our website, www.animark.us or call us at 303-343-8342 for more information on the Pregscan.

Testing your AcuBreed

To test your AcuBreed and ensure the readings you are taking each day are accurate, you may wish to set up a performance test liquid. To do this, simply take the Performance test liquid container included in your case and fill it with tap water. Insert the probe into the container and take a Quick Reading. Then take a pinch of salt and add it to the water. Take another Quick Reading with the AcuBreed probe and note the reading. When salt is introduced into the tap water, the readings on your AcuBreed should drop. If each time salt is introduced the probe takes a lower reading, the instrument is working correctly. If the readings do not drop, check the probe for oxidation. If oxidation is detected then clean and disinfect the probe as per the "Probe Disinfection" guidelines and test again or contact Animark.

AcuBreed Troubleshooting Guide

Problem	Possible Cause	Solution
Unit Does not turn on	Battery is not making good contact with the positive and negative terminals	Remove battery. Inspect the battery terminals and the positive/negative terminals on the device for corrosion or acid buildup. If both appear clean, reinsert battery and attempt to turn device on. If terminals are dirty, clean them, reinsert battery and attempt to turn on the device. If device still does not turn on, call Animark help line.
	Battery is fully drained	Replace battery. If device still does not turn on, call Animark help line.
	Short in electronics	Send to Animark for repair
	Malfunctioning electronics	Send to Animark for repair
Probe not taking a reading	Probe not connected	Check probe connection
	Battery drained	Replace battery. If still unable to take reading, call Animark help line
	Faulty probe	Test probe, if not functioning, call Animark
Probe reading is unusual	Oxidation on probe	Clean and disinfect probe
	Ovulation disorder	See ovulatory disorder section or check with
	Air in Vaginal Tract	Readings will be higher

Numbers do not change	Yes button engaged	Press yes, take reading
	Short in electronics	Send to Animark for repair
	Malfunctioning electronics	Send to Animark for repair
Animals readings vary greatly day to day	Oxidation on probe	Clean and disinfect probe
	Animal cycle unknown	Take animal readings for at least one cycle
	Probe jack faulty	Call Animark help line
	Probe faulty	Remove and reinsert probe, if still not functioning test probe or call Animark
	Low battery	Replace battery. If still not functioning, call Animark
Low battery indicator	Low battery	Replace battery. If still not functioning, call Animark
Display seems dim	Low battery	Replace battery. If still not functioning, call Animark

If the chart above does not address your particular concern, contact Animark repair ((303) 343-8342) for further instruction.

NEVER remove the cover of your AcuBreed ovulation monitor. Components are protected by a chemical spray against humidity and corrosion. Any attempt at repairing the unit will void the warranty.

Care and cleaning

Although the AcuBreed unit is designed for rugged use, excessive rough handling is undesirable. Sharp bends or kinks in the cable, especially near the ends, should be avoided. After field use, the instrument should be wiped clean of any moisture, dirt, or organic material, dried and placed back in the case.

Occasionally, the case may be cleaned with a light duty general-purpose household cleanser. NEVER USE ABRASIVE CLEANERS OR CAUSTIC LIQUIDS ON THE CASE, FACEPLATE, OR ANY OTHER PART OF THE INSTRUMENT.

A charge will be assessed if a unit requires excessive cleaning prior to service.

Warranty and service

All instruments manufactured by Animark, Inc. are warranted to be free of defects in materials and workmanship for a period of two (2) years from date of purchase. Within this time, the instrument or part of it will be repaired or replaced at our discretion if found to be defective by our examination.

Warranty validation

To validate your warranty, the Warranty Registration Card included with your instrument must be completed and returned to Animark, Inc., 876 Ventura Street, Aurora, Colorado 80011, within thirty (30) days of purchase. This warranty is non-transferable and applies only to the original Purchaser.

Cables and sensors are warranted for ninety (90) days from the date of purchase.

Warranty service

If your instrument requires service, please call Animark, Inc. before shipping the unit to the repair center. Some service problems can be diagnosed and corrected by telephone. If the unit does need to be returned for service, we can suggest suitable packaging and shipping procedures.

Service after warranty period

After your warranty expires, any necessary service will be provided promptly, carefully, and at the lowest possible cost to the owner. Replacement cables and sensors may also be ordered directly from Animark. Please call Animark at 303/ 343-8342. If you are calling long distance, remember the difference in time zones. The best time to call is between 8:30 A.M. and 4:30 P.M. (Mountain Time) Monday through Friday, except holidays.

Warranty exclusions

This warranty does NOT cover damage to the instrument nor injury or consequent injury to any animal resulting from any cause, including abuse, failure to following operating instructions, improper handling or unauthorized attempts to repair the equipment. Batteries, if not properly used (see section in Battery Care Instruction) are excluded from the warranty.

Voided warranty

This warranty is void if attempts at repair have been made by anyone other than authorized Animark personnel.

AcuBreed monitor accuracy

The purpose of the AcuBreed instrument in breeding is to determine the optimum time to breed an animal in order to achieve higher conception rates. This does not guarantee conception to a single service, nor does it guarantee conception in any given animal. Properly used, the instrument will reduce the average number of services per conception in nearly all operations. Animark does not make any claims or guarantees as to the effect of performance.

Customer service / assistance

Animark personnel are always happy to provide telephone assistance or, when possible, to visit an owner who needs more intensive instruction for use of the AcuBreed.

Animark has an existing network of breeders who are willing to review their operation and use of Animark equipment. If you are provided an existing customer reference please understand that they are simply happy customers that do not mind taking calls on occasion. Animark does not compensate them in any way, so please show them the respect and patience they deserve. If after you have become proficient with you Animark instrument you would like to extend your knowledge and help, please contact us. We would love to add you to our growing network of satisfied breeders. Also please understand that we are equipment manufacturers who produce the best equipment in its class. We do not breed our own animals and often times are not as proficient as our seasoned users. You in the field are the experts in its use. We can, of course, provide basic instruction and explain the operation of the instruments. You will, however, obtain the high degree of accuracy you need in your operation by taking the most important action... PRACTICE, PRACTICE, PRACTICE.

Summary

This electronic method of detecting and predicting ovulation has been shown to be reliable in large numbers of animals. Consistency is the key factor in your continued success. Missing days and spotty testing will not likely provide you with the level of success you are looking for. Properly used, the AcuBreed will provide a high degree of information on your animal's ovulatory cycle. Animark does not make any claims or guarantees as to the efficiency of the instrument, nor is any other guarantee made or implied. Animark is unable to accept returns of purchased equipment. If you are leasing the equipment you can return it at any time.

Other Instruments by Animark

Ultrasound Pregnancy Detectors for Livestock

Our electronic pregnancy detectors are highly accurate and easy to use. Used externally, they are more convenient and safer for the animal than palpation or internal ultrasound units. With Animark ultrasound instruments, you can expect to

- Detect pregnancy as soon as 14 days after breeding.
- Check at your convenience, in 1-2 minutes.
- Check as often as you like, any time until birth.
- Cull, keep, or rebreed on accurate information.
- Save on vet bills.

The Pregscan For Mares and Cows

The ultrasound instrument displays the exact location of density changes or tissue interfaces in your animal. When properly aimed at the uterus, the display will show a pattern or spike indicating pregnancy and no spike if the animal is open. Because the animal's uterus changes density soon after conception, you can identify pregnancy as early as 14 days after breeding. This unit is specifically calibrated to recognize the tissue change upon conception in large animals. With sophisticated electronics and digital output, the Pregscan is 98% accurate at detecting pregnancy.

The Pregtest For Smaller Animals

The Pregtest is designed for use with Miniature Mares, Llamas, Alpacas, Swine, Sheep and Goats. Because palpation is not usually a practical option for smaller animals, an ultrasound (the Pregtest) is the best option available for the determination of pregnancy. The Pregtest is a fully external, A-scope ultrasound machine used for the detection of pregnancy in smaller animals. The Pregtest will provide accurate information about the reproductive status of your animals, allowing you to increase herd efficiency, decrease costs, and improve your profitability.

The ultrasound instrument displays the exact location of density changes or tissue interfaces in your animal. When properly aimed at the uterus, the display will show a pattern or spike indicating pregnancy and no spike if the animal is open. Because the animal's uterus changes density soon after conception, you can identify pregnancy as early as 14 days after breeding. This unit is specifically calibrated to recognize the tissue change upon conception in smaller animals. With sophisticated electronics and digital output, the Pregtest is 98% accurate at detecting pregnancy.

AcuBreed Menu Tree

Main Menu

- |
- Take Quick Reading → connect sensor → sensor in place? → “VR=xxx”
- |
- Enter Animal IDs → Select ID → NEXT/PREV for letters → YES/YES to exit
- |
- Select Animal → NEXT/PREV → main
- |
- Take Animal Reading → connect sensor → sensor in place? → “VR = xxx”
- |
- Calculate Fertility → “Not enough readings”
 - “Not ready to breed”
 - “Breed in 2 – 4 days”
 - “Breed Now”
- |
- View, Delete, Download
 - |
 - Review readings → select ID → NEXT/PREV
 - |
 - Download Readings → select Animal ID → Open Software → Ready to download? → “Downloading”
 - |
 - Download All Readings → Open Software → Ready to download? → “Downloading”
 - |
 - Delete Readings → select ID → confirm → delete Animal ID? → animal deleted →
- |
- Set the Clock → Year → Month → Day → Hour → Minute
- |
- Contact Animark, Inc. → “Animark.us, 800-532-4048”

NOTES