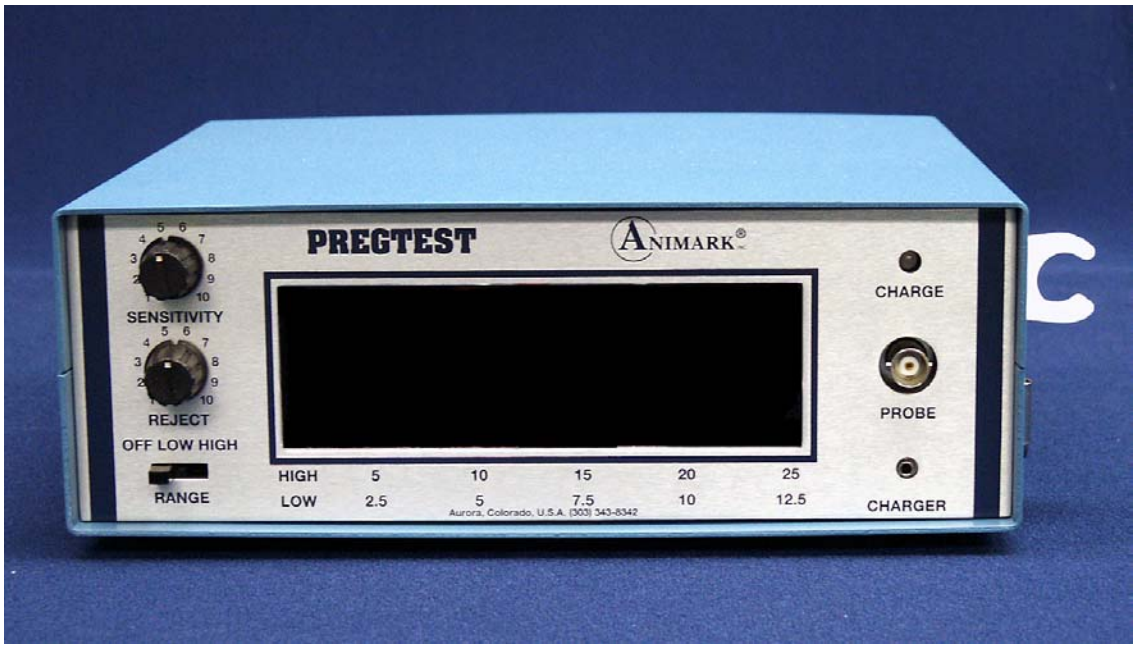
PREGTEST

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

Ovascan

Ovatest

We have since added several other products to our line, including the new Pregtest and Pregscan. 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 Pregscan ultrasound pregnancy detector, 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 Pregscan unit, 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.

What is Ultrasound and why does it work for pregnancy detection?

Ultrasound as defined in Webster Dictionary is “Vibrations of the same physical nature as sound but with frequencies above the range of human hearing.” For all practical purposes, ultrasound is a sound wave that has penetrative properties. When an ultrasound signal is directed into an animal it will penetrate skin, muscle, fat, fluids and some organs. Ultrasound signals will not travel through air or gas, but will travel through liquids and solids. The Ultrasound signals will reflect back to its source from any obstacle that the signal encounters At each interface or obstacle, the signal being reflected or “echoed” back to the source is measured and then reproduced in the Pregtest as a row of lights indicating how far the signal has traveled before encountering a tissue interface or other obstacle. The denser the tissue interface the stronger the signal. This is represented by the height of the signal and is reflected on the Pregtest display.

When an animal’s egg has been fertilized, one of the characteristics of early pregnancy is that the uterus begins to thicken and change “tone” to protect the egg. This is the primary factor in allowing the Animark Pregtest to identify early pregnancy. As long as the source of the ultrasound signal is directly pointing at the uterus, the ultrasound will either pass through an unfertilized uterus or be reflected back in the case of the fertilized uterus. This change in tone is usually apparent after 14 days from fertilization in miniature horses and is variable for other animals being tested.

Introduction to the Pregtest

The Pregtest is an A-Scope or linear ultrasound pregnancy detector typically used on smaller animals such as miniature horses, llamas, alpacas, sheep, and other smaller sized animals. Properly used, your Pregtest will provide valuable information about the reproductive status of your animals, allowing you to increase efficiency, decrease costs, and improve profitability. The Pregtest is a sophisticated electronic instrument that displays a pattern of lighted lines on the face of the instrument which shows the depth the ultrasound signal has traveled before encountering a tissue interface or obstacle as well as indicating the magnitude of density change. The Pregtest is specifically calibrated to identify the density changes or tissue interfaces associated with an early pregnancy. Study this handbook carefully to ensure correct use and interpretation of the display.

A general knowledge of the anatomy of the animal is very helpful when using the Pregtest. In order to correctly identify the status of an animal’s uterus, the signal

must be pointing directly at the uterus. If the signal is pointed at a full bladder, for example, the display is similar to that of an early pregnancy, so care must be taken when aiming the sensor. (See Figure 1.1).

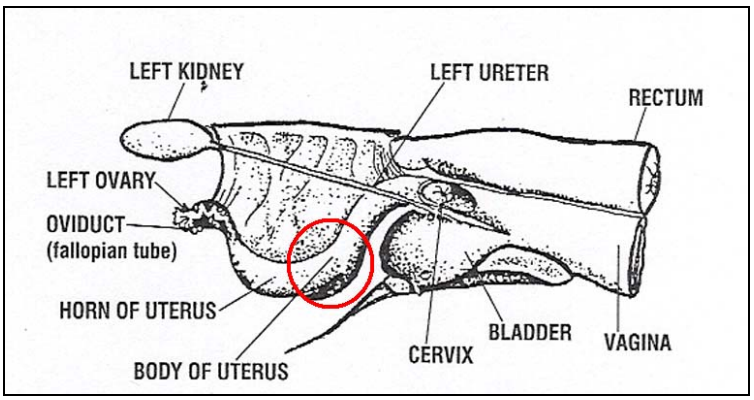

Fig 1.1

(Please note: The Pregtest shows all tissue interfaces. It is 100% accurate at what it shows. The instrument simply shows any interface it is pointed at. With use and experience you will find many uses for the Pregtest in addition to pregnancy detection. It is important to note that most male animals have tissue interfaces at the same location and depth as a pregnant female and the Pregtest will produce signals that are similar to those caused by pregnancy in the female.)

The Pregtest is one of the many tools you may use to make good herd management decisions. Experience and practice with the Pregtest will pay off in providing reliable reproductive status of your animal. The Pregtest, like any tool, has its proper uses and its limitations. It is up to you to use the capabilities of the Pregtest to your best advantage. The following suggestions will help you achieve the success you are looking for:

1. Practice with animals whose conditions you already know until you come to trust your results.
2. Test animals as soon after breeding as reasonable and test repeatedly.
3. Use common sense in actual field use.
4. Be patient.
5. Practice, practice, practice. The more you use it the better you will be.

Pregtest packing list (Figure 1-2):

Pregtest Instrument	Transducer
Carrying Strap	Battery Charger
BNC cable	Carrying Case
Instruction Booklet	Warranty Card

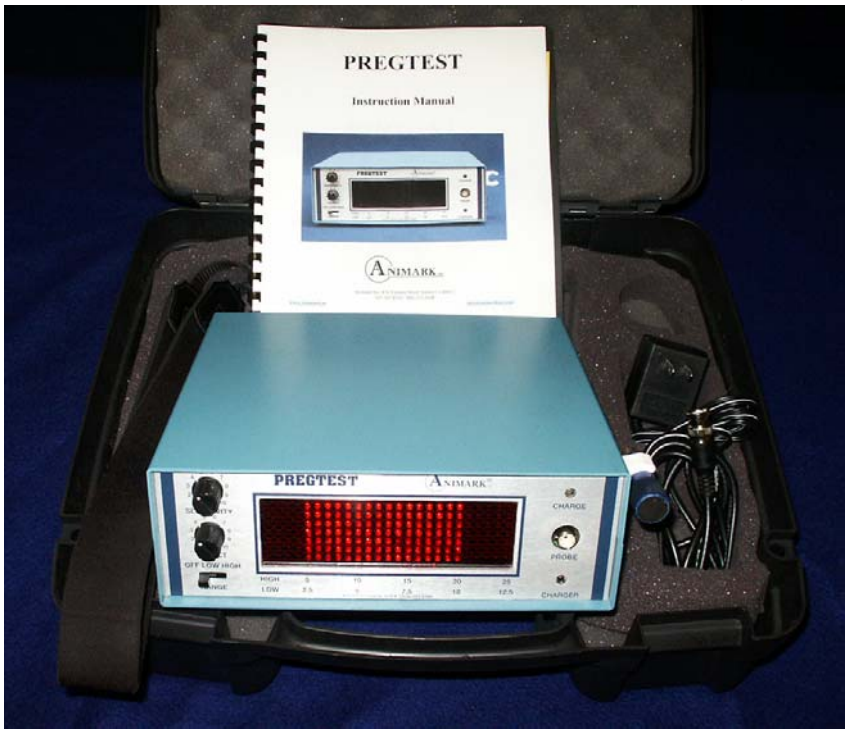

Fig 1-2 Packing contents.

Pregtest instrument features

The Pregtest has several features available to assist in getting the best possible signal display. The ultrasound signals are displayed in red on a screen on the face of the instrument. The display is a digital bar graph (series of vertical lines). The x-axis (horizontal line) indicates the amount of change in the density of the tissue. The y-axis (distance on the screen) shows what depth the sound signal has been reflected or echoed back to its source. The source of the ultrasound signal is the transducer or sensor, which sends and receives the ultrasound signals.

Sensitivity control

The sensitivity control is similar to the volume control on a radio; it increases or decreases the electronic gain of the signals received by your unit. Turning the sensitivity knob clockwise amplifies the signal received from the sensor. Turning it counterclockwise reduces or decreases the signal. It can be used to compensate for the size and age of each animal you are checking. Use Sensitivity when you are getting a weak signal to strengthen it. Decrease the sensitivity if you are getting too much signal.

Reject control

The reject control is similar to a squelch control on a CB radio and is used to eliminate the small spikes or signals that come from signal reflection. Turning it clockwise increases the filtering action, subtracting spikes from the bottom of the display. Use the reject control when the display is cluttered with too many spikes or signals. If the reject control is turned all the way down the display screen will light up the entire display. When you are first starting out, turn the reject clockwise until the lights disappear. This is normally around 3-4 on the control setting.

Sensor

The sensor (sometimes called transducer or probe) is the black or blue hand-held device that comes in contact with the animal and through which the ultrasonic signals are transmitted and received. It attaches to the connector marked "Probe" on the faceplate of the main unit by a cable with "turn and click" BNC connectors at each end. It must be placed in direct contact with the skin (no air) and pointed in the right direction to function properly.

Charge indicator

The Light Emitting Diode (LED) marked "Charge" on the upper right corner has three different functions:

1. When GREEN, it shows that the instrument is ON and has sufficient charge to operate properly.
2. When YELLOW, the unit is in need of a charge and may not function properly until charged.
3. When it turns RED, this indicates that the batteries need charging. Do not use the unit if LED is red.
4. When the charger is connected, and the LED shows red, the connections are correct and the unit is charging.

Display screen

The display consists of vertical columns with 8 small lights each. When a tissue interface or object is encountered by the ultrasound signal the strength and depth are displayed on the screen. The stronger the signal, the more lights come on in a vertical light column. The horizontal scale or depth scale is located on the front panel along the bottom directly under the display screen. Each number on the scale represents the depth or how far the signal has traveled into the body of the animal before reaching a tissue interface or other object. This is important to note as each

animal or breed may vary slightly. There are two scales. The "HIGH" starts at 5 Cm and goes up to the depth of 25 cm. Each vertical line is 1cm of depth. The "LOW" Starts at 2.5 cm and goes up to 12.5 cm of depth. The Low range is used primarily for checking shallow depth structures such as layers of fat. Each vertical line corresponds to 1/2" of depth.

Range switch

The sliding switch at the lower left of the instrument turns the machine ON and selects the desired scale. Select High to use the scale marked “High”. Select “Low” to use the smaller scale for more precise measurements.

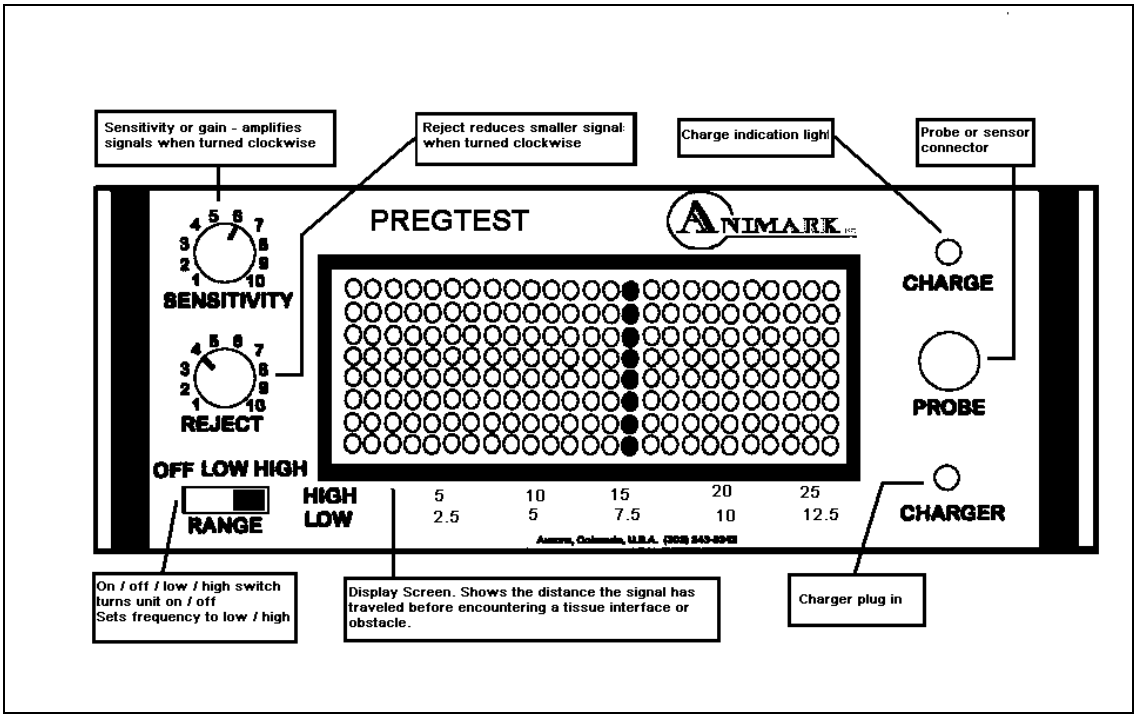

Fig 2-1. Pregtest instrument face and control descriptions.

Pregtest set up

When setting up your Pregtest follow these simple steps:

Have available vegetable oil (most people use a squeeze bottle for this) or an ultrasound gel and paper towels. Connect the shoulder strap by fastening the ends into D-rings at either side of the unit. Hang the instrument either on your shoulder or around your neck, whichever is more convenient for you. You might also prefer to set it on the ground or a sturdy table or shelf. Be careful that it can't fall or be pulled off, as the machine may break. Connect one end of the cable to the sensor and the other end to the unit. Simply turn while pushing in and click both connectors to lock them securely in place. Turn range switch to “High”, you should

hear a high-pitched sound coming from the rear of the unit. This indicates the unit is ready for use. If you do not hear the sound, turn the unit off then on again.

WARNING: DO NOT connect or disconnect the sensor and/or cable to the unit when it is turned on. Doing so may result in damage to the unit.
THE PREGTEST IS NOW READY FOR USE.

Preparation for use on animal

Follow the setup procedure outlined above. Start by setting the "Sensitivity" to 8 and the "Reject" to 4.

Slide "Range" switch to "High" (range). Look at the "Charge" indicator light. It should be green. If it is red, turn Pregtest "Off" by sliding "Range" switch to "Off". Connect charger to both the Pregtest and an electric outlet and charge for at least 6 hours before turning it "On" again. During charging, the light should be red. Make sure your machine is "Off" while charging. After charging, disconnect the charger and follow the setup procedure outlined above.

Sensor contact

Proper contact between the sensor and the animal is essential. To assure proper contact, remove any dirt, mud, or other material from the hair coat and the face of the sensor. Use vegetable oil or an ultrasound gel. Apply the oil or gel to the animal and also the head of the sensor. Do not use any fluids, which could contain air bubbles, like liquid soap or water. Also, do not use any mineral oil, motor oil, Vaseline, or other petroleum products as these substances may harm the sensor face. We recommend vegetable oil as it is cheap and works very well. Remember, ultrasound will not travel through air or gas, so press firmly. When using the Pregtest on animals with a very thick coat, use a large amount of oil or lubricant. In rare cases clipping or shaving may be necessary.

Using the Pregtest with miniature mares or donkeys

Checking for pregnancy in mares is possible as soon as 14 days after insemination. Tests between 14 and 21 days detect the change in uterine "tone". (The uterus will change tone upon fertilization and can normally be detected after 14 days). In some cases it may take longer. For optimum efficiency and accuracy, check between 14 and 21 days after breeding and again from 35 to 40 days and again at 55 to 60

days. The test may be repeated at any time. Testing multiple times is desirable. Many of these early pregnancies fail to continue. Because many pregnancies fail, it is recommended that you test again after 35 days to ensure no early embryonic loss has occurred from abortion or absorbtion. If your animal has aborted or reabsorbed, the Pregtest may still show a pregnancy spike or tissue interface, as the uterus has not returned to its normal non-pregnant state. Until it has returned to normal the Pregtest will show the tissue interface on the display. This is why it is important to continue checking.

Sensor placement on mini mares

To use the Pregtest with mares, work from the left flank of the animal (See figure 3-1). Checking from the left flank is required as the cecum is located on the right flank of the animal.

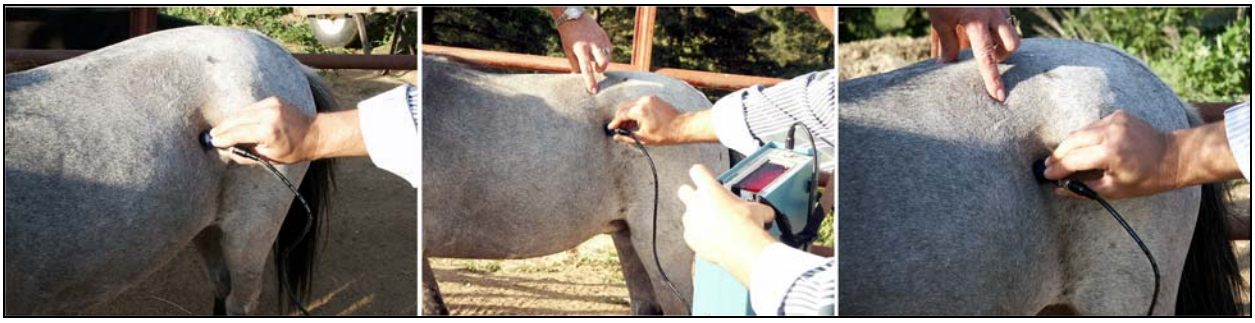

Fig 3-1. Sensor placement on mini mares.

Early pregnancy detection

To determine early pregnancy, find the hollow area on the left flank on the side of the mare between the hipbone and the last rib. Lubricate the sensor head and this area thoroughly. Place the sensor on the location and press firmly. Point the sensor so that it is aimed straight across the animal and then make very slight adjustments so that it is pointing directly at the animal's uterus. Do not slide the sensor. Use a very slight tilting motion to direct the signal. The slower you move the better. This takes time to get proficient so be patient. The more practice you have the better your results.

Fig 3-2. Checking for sensor placement.

Once the sensor is pointed directly at the uterus, you will see on the display either a spike (See Figure 3-3) that extends from the bottom to the top within the 10 to 15 Centimeter range or no spike. Where you see the spike in this range is dependant on the size of the animal. The larger the animal the deeper you will expect to see the spike. If there is no spike, assume the mare is still open. It is not uncommon to have multiple spikes at the very beginning of the display. These are not pregnancy spikes but tissue interfaces you expect to see. Skin, muscle and fat are all tissue interfaces that will be displayed on the Pregtest. You can ignore these initial spikes.

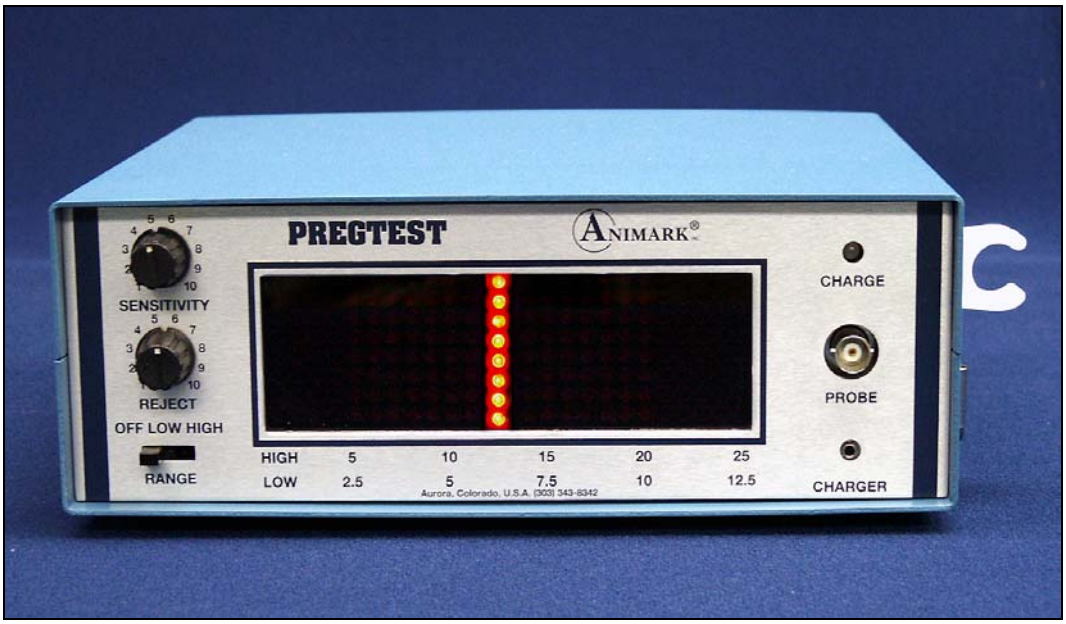

Fig 3-3. Pregnancy spike.

It is also important to note that it is possible to pick up the full bladder of a mare if the sensor is pointed too far back. It will look similar to a pregnancy but is usually around 10 centimeters and wider than one column. If you are not sure try checking again later or better yet, just after you know your mare has urinated. The display will be different from a pregnancy (See Fig 3-5) and you should be able to easily tell with practice. The bladder is in close proximity to the uterus (See Figure 3-4). So care must be taken to avoid a false reading.

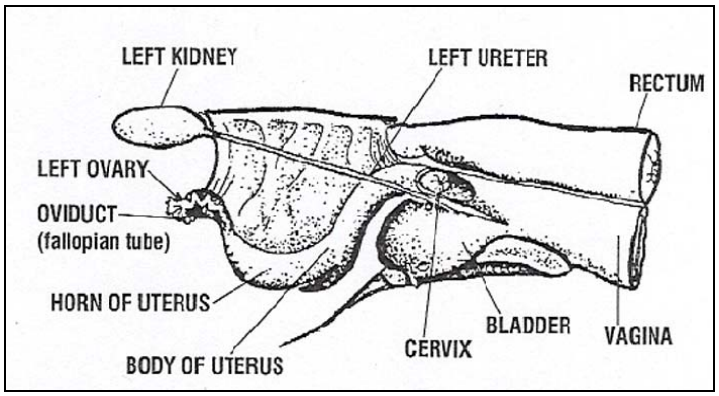

Fig 3-4 Mare reproductive organs.

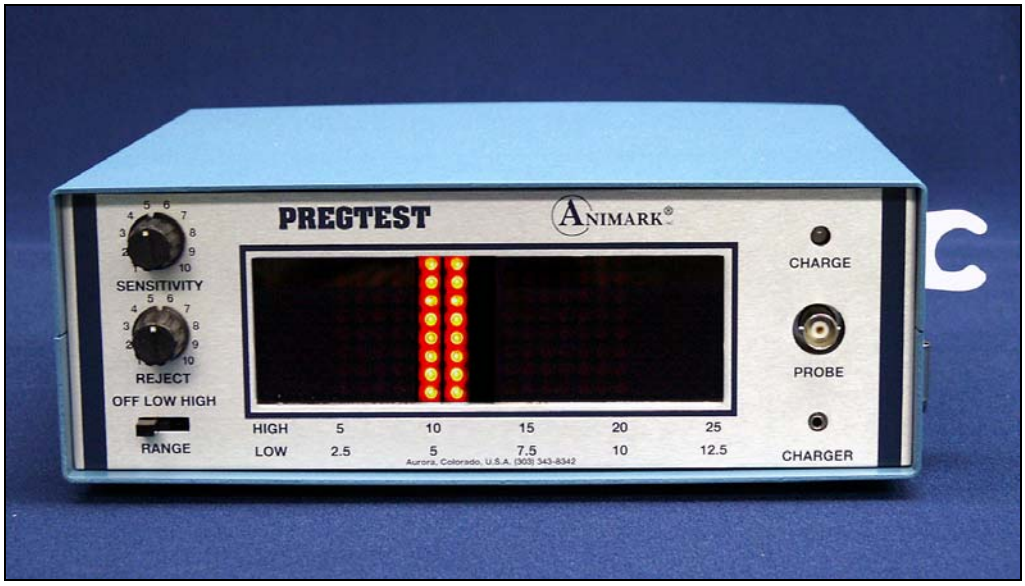

Fig 3-5. Possible bladder display.

After each use, disassemble, clean and store the Pregtest in its case to prevent damage. For best results, do not recharge your Pregtest until it has been used for some time in the "on" position or until the charge light turns yellow or red. Each charge can last from 4-5 continuous hours, or longer in the machine is turned off between testing animals.

Late pregnancy detection

After the pregnancy has progressed for approximately 90 to 120 days, the pregnant uterus will drop over the brim of the pelvic bone and begin to occupy more space within the abdominal cavity. By four to six months, it will be resting on the floor of the abdomen. At this time, it may be easier to locate the pregnancy by testing from the area located just in front of the udder. Just as before, lubricate the area thoroughly and place the sensor up and a little forward. The history of your animal's foal experience may dictate how soon and how far down the uterus drops. If for example, your mare is experiencing her first pregnancy, her uterus will drop later than a mare with significantly more foaling experience. Conversely, if your mare has had many foals, her uterus will drop sooner and farther. The display reading on later pregnancy will look different from an early pregnancy spike. The Pregtest will pick up more of the foal's bone and organ structure as well as the uterus wall. A typical late pregnancy will show a strong spike from the bottom to the top followed by several more but smaller spikes. (See Figure 3-6). Depending on how far along the pregnancy is, the reading will show up earlier on the display indicating the uterus and fetus are closer to the skin of the animal.

Keeping a record of your screen observations, position of the sensor and control settings will prove invaluable in monitoring the female's progress through her pregnancy. If you use the Pregtest to check your animals on a regular basis, you will be amazed how fast you will be able to recognize and interpret various traces. With experience, the Pregtest can assist you in detecting uterine infections, congestions, and even the rare occurrence of twins.

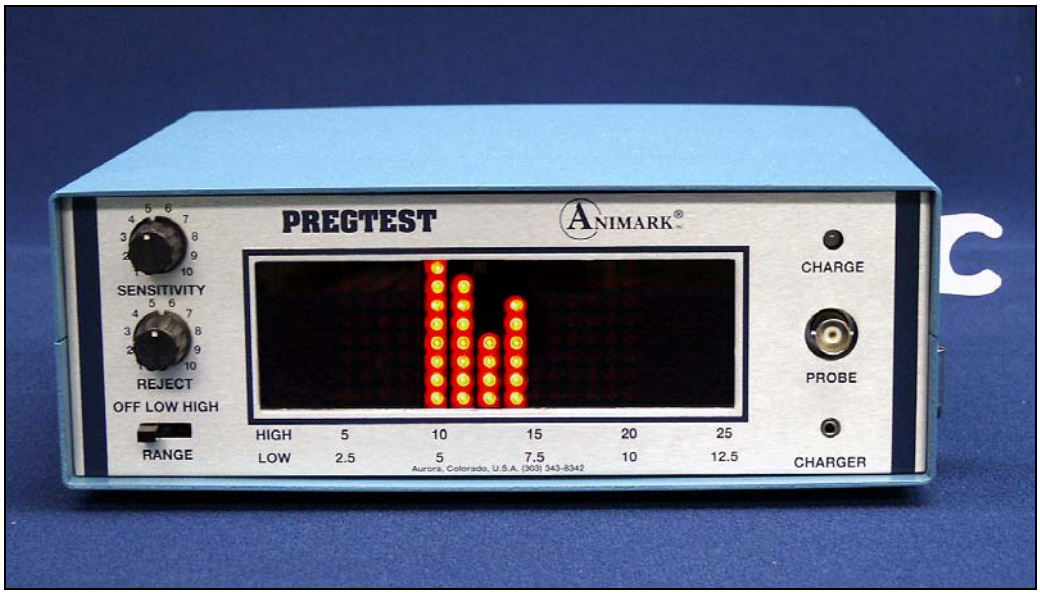

Fig 3-6. Possible late pregnancy display.

Conditions other than pregnancy

Remember that ultrasound signals are the result of the sound being reflected from tissue interfaces, between tissues and/or fluids of different densities. Because of this fact, anything that causes a change in density of the uterine wall or in fluid content of the uterus can produce signal reflections of the ultrasound sensor.

Estrus

Changes in the uterus and ovaries associated with estrus can show up on the Pregtest. These changes usually appear as a single jumping line that is hard to maintain.

Infection

If your mare's uterus is infected, there will be increased congestion in the uterine wall. Infection is usually accompanied by pus present in the vaginal cavity. The

Pregtest will reflect the infection but is not typically confused with a pregnancy spike. The display will show a flickering or "grassy" signal.

Post partum

After foaling, it takes some time for the uterus to return to its normal, non-pregnant size and condition. In some cases this may look like a pregnancy. More typically, the display will appear more like a pattern of spikes similar to that of an infected uterus.

Early embryonic death

In connection with very early testing for pregnancy, it is important to be aware of the fact that in a fairly high proportion of mares, the embryo may suffer early embryonic death. If this condition occurs, the uterus may well develop enough density or “tone” change to produce a pregnancy spike. If echoes are seen early, followed by a delayed return to estrus, it could indicate that an early embryonic death has occurred.

Scar tissue

Scars in the uterus are not very common but, if present, they can produce spikes. If you know that your mare has scar tissue, then you will be looking for a change to her regular readings. These animals are more difficult to read but with practice and the historical knowledge of her normal readings you should be able to recognize a pregnancy. Scar tissue spikes are usually wider than pregnancy spikes and generally do not go to the top of the screen. If there is concern that scar tissue may be present in the uterus, use the Pregtest before the mare is bred, either during the winter period when she is not cycling or between two heat periods. It may also be necessary to use other methods of establishing whether or not this particular animal is pregnant.

Breed differences

The length of the vagina and uterus may vary from breed to breed. As a handler of your particular breed, you should make sure you know where the uterus is typically found for your breed. Anatomy books or the help of your local vet can assist you in identifying the typical location for your breed. This is important to note, as it is possible to reflect ultrasound signals off of the cervix or full bladder if pointing the sensor incorrectly.

Initial pregnancy checking timeframes for different breeds

Miniature Horses at	14 days or later
Donkeys at	14 days or later
Miniature Goats / Donkeys at	24 days or later
Sheep at	23 days or later
Goats at	24 days or later
Pigs at	25 days or later
Llamas at	28 days or later
Alpacas at	28 days or later

A second test is desirable to catch early abortion or absorption. See breed specific section for more detailed information on sensor placement and other breed specific information.

Record keeping

Adequate records are very valuable for efficient use of the Pregtest. Before testing a mare, check to see about how far along her pregnancy should be if she is pregnant. Upon taking the readings, the user can record what is seen, their initials, the date, and the settings on the unit for that particular reading. Any historical record will be helpful in assisting you in making accurate observations in regard to the reproductive status of your animals.

Checking Pregnancy on sheep or goats

To familiarize yourself with the operation of the Pregtest, use the instrument on several ewes known to be open. Any lanolin build-up, especially on older ewes, must be cleaned away before testing. Do not test ewes in heat or that have just lambed, as conditions such as estrus or post-lambing congestion are apt to produce a pregnancy signal. (Knowledge of the animal's health and heat cycles are essential for successful results.)

Please note: A ram has tissue interfaces that are located in the same location of the ewe and will definitely show up as pregnant due to the density of these tissues located in the same area as that of a pregnant ewe.

Early Pregnancy Detection

Before checking for early pregnancy, try the Pregtest on ewes thought to be pregnant from 23 to 45 days to familiarize yourself with the location or display of the pregnancy spike. As with testing other animals, apply vegetable oil or ultrasound gel to testing location on the animal as well as the flat end of the sensor. Be liberal with the oil or gel. If while testing you get initial contact spikes on the lower end of the scale, you have enough oil or gel. If you see nothing, you probably need more oil or gel. More oil or gel is better on sheep. In rare cases you may need to clip or shave the testing area to get a good contact.

When pregnancy checking ewes between 45 and 60 days gestation, place the flat end of the sensor on the bare area of the abdomen just forward of the right, rear leg. Aim the sensor upward at about a 45° angle from the ground and about 10° forward of a line straight across the body.

Slowly tilt the sensor upward until it is approximately 55° from the ground and pointing almost at the spine. To avoid echoes from the bladder, rumen or other body structures, do not aim too far forward or back.

Late Pregnancy Detection

For checking late pregnancy (after 60 days), the sensor is placed on the ewe's right side, forward of the hipbone. Separate the wool (it is should not be necessary to shear the area), and drench a small area of skin with vegetable oil or ultrasound gel. Place the flat end of the sensor against the animal's skin, aiming it downward at approximately a 45° to 60° angle to the ground and tilting it approximately 10° toward the rear. This should aim the sensor at the front of the ewe's bag. Scan in an arc until the sensor is directed almost straight down to search for a pregnancy spike.

After each use, disassemble, clean and store the Pregtest in its case to prevent damage. For best results, do not recharge your Pregtest until it has been used for some time in the "On" position or until the charge light turns yellow or red. Each charge can last from 4-5 continuous hours.

Keeping a record of your screen observations, position of the sensor and control settings will prove invaluable in monitoring the female's progress through her pregnancy. If you use the Pregtest to check your animals on a regular basis, you will be amazed how fast you will be able to recognize and interpret various traces. The Pregtest can assist you in detecting uterine infections, congestions, and even the rare occurrence of twins.

Conditions other than pregnancy

The same conditions that can be confused with a pregnancy spike in mini mares are also possible to pick up with ewes. Please refer to "Checking Pregnancy in Mares" section, Page 15.

Checking pregnancy on swine

For best results when pregnancy checking pigs, practice with gilts that are known to be open (but not animals in heat or which have just pigged) to determine the type of display that is common for non-pregnant animals. Now, try the Pregtest on sows that are thought to be pregnant from 30 to 60 days. You should see a pregnancy spike at or around 10-15 CM. Once you identify the positioning and display for these pregnant sows, you should be able to easily identify the difference between open and pregnant animals.

Early pregnancy detection

You will want to use vegetable oil or an ultrasound gel to lubricate the testing location on the animal's skin as well as the flat end of the probe. Place the flat end of the probe against the lower flank of the animal, preferably on the right side (Left side is also acceptable), about two inches from the navel, above the second teat from the back, just outside the nipple line. Direct the probe to the center of the body. Aim across the abdomen toward the opposite side of the spine. You should see some initial contact lines on the left side of the display. These lines represent the near side of the body, skin, muscle and fat. If you do not see the initial contact lines, you should add more oil or gel. Do not aim too far back to the flank or aim into the pelvic area as you may pick up signals from the bladder or other internal organs. Start by setting the sensitivity and reject around 4. Place the probe on the animal's skin as described above and scan the uterus for a pregnancy spike. Do not slide the probe but make very slight tilting movements when scanning the uterus area. The slower your adjustments the better. This takes time to get proficient so be patient. The more practice you have, the better your results.

Late pregnancy detection

For checking pregnancy after 60 days, keep in mind that the uterus will be dropping and expanding. Your pregnancy spike will be closer to the sensor of the animal (shown more on the left side of the display) and should measure around 8-10 cm. You should expect to see more spikes as the ultrasound signal is picking up more of the fetal bone and organ structure as well as the uterus.

Keeping a record of your screen observations, position of the sensor and control settings will prove invaluable in monitoring the female's progress through her pregnancy. If you use the Pregtest to check your animals on a regular basis, you will be amazed how fast you will be able to recognize and interpret various traces.

Measuring backfat and loin eye

The Pregtest can also be used to measure backfat and loin eye. As with Pregnancy detection you will need to use vegetable oil or ultrasound gel to ensure good contact with the animal's skin. Set your unit on the low setting and place the probe against the animal's skin. On the display, the first echoes on the far left of the display will represent the skin surface. The next set of echoes to the right, anywhere from 2 to 5 cm into the tissue, is the boundary between the backfat and the muscle of the loin eye. The next spike you may see at 7 to 11 cm or more, is the far side of the loin eye. You may have to switch to the high settings to locate the far side of the loin if the loin is deeper than 12.5 cm. The anatomical loin eye thickness extends from the fat-muscle interface (the first set of strong spikes after the initial skin spike) to the far side, the boundary between muscle and bone (the second set of strong echoes after the initial skin spikes). Loin eye thickness, then, is the difference between the distance to the far boundary and to the backfat muscle boundary.

Checking pregnancy on llamas or alpacas

Early pregnancy detection

When pregnancy checking your females for the first time, you may need to spend a couple of minutes desensitizing their mid-belly area so they will stand calmly to be tested. The most convenient position for both this procedure and the testing itself is to stand on the right side of the female facing toward her rear with your right hand on her back and use your left hand to rub her belly. Once the female is calm and standing, clean her mid-belly area from udder to navel thoroughly with warm water and apply a liberal amount of oil to a two-inch strip down the middle of her belly, from around 1- 2 inches in front of the udder to her navel. Rub it in well to ensure good contact between the head of the sensor and the skin. Add oil to the flat portion of the probe and turn the unit on high.

Position the Pregtest so that you have a clear view of the screen and can reach the controls if you do not have an assistant, ensuring that neither instrument nor female will be damaged if she happens to kick or lie down.

Take care to keep the sensor cable clear of the female's rear legs, hold the sensor firmly in your hand and place it against the female's belly, reaching underneath

from in front of her right rear leg. You should start about two inches in front of her udder, mid-line, and apply firm pressure to ensure good contact against the skin. Holding the sensor perpendicular to the plane of the female's belly tilt the probe slightly forward of vertical, pointing just a little toward the female's head. From this position close to the udder, this angle will help you avoid picking up an echo from the bladder. You should not pick up the bladder unless it is full. If you do pick up the bladder and are not sure if it is a pregnancy spike or not, recheck the female two hours later to establish whether she has emptied her bladder. If she has emptied her bladder and you get another spike, she is pregnant.

Occasionally, you will have a female who will not stand for this procedure and lies down. If she stays down, you can reach in with the sensor between her rear legs and place the sensor against her belly forward of the udder. You will need to gauge the distance of the sensor forward of the udder by feel from this position since visibility may be restricted.

When looking at the display you should see spikes at the very beginning of the display. These are showing the skin, muscle and fat located in the wall of the animal. If these spikes are not apparent, you need to apply more oil or hold the sensor more firmly against the skin.

Once you have a good contact spike, you will be looking for a pregnancy spike between 5-15 cm depending on the size of your animal. Do not slide the sensor but scan the uterus area with very slight tilting motions. The slower you move, the better. Use your sensitivity control to amplify faint signals and use you reject to eliminate unwanted “bouncing” signals. If after scanning the uterus area you find no spike, you should call the female open and check her later. Check again after a few days, if she still does not show as pregnant, go ahead and re-breed.

Note the settings of these controls at this point. These settings should become the standard for your particular instrument and will give you a clear, uncluttered picture of the uterine condition of all your females.

When you have completed your Pregtest check of the female, wash the oil off her belly with warm water and dry the area with paper towels. This will prevent dirt from sticking to her belly when she lies down.

It is important to note that following ovulation, the release of the hormone progesterone causes dramatic changes in the uterus to prepare its environment for implantation. Some of these changes include the thickening and engorging of the uterine walls. It is possible to pick up these changes and falsely interpret them as a pregnancy. This is why you should not pregnancy check Llamas or Alpacas until at least 28 days after breeding. This allows the uterus to return to normal in animals that have not been fertilized.

Late pregnancy detection

In later pregnancies, the Pregtest will show a spread of spikes closer to the abdominal wall of the animal. You should expect to see spikes closer to the left of the display as the ultrasound signal will pick up her uterine wall, the fetal organs and skeletal structure.

Keeping a record of your screen observations, position of the sensor and control settings will prove invaluable in monitoring the female's progress through her pregnancy. If you use the Pregtest to check your animals on a regular basis, you will be amazed how fast you will be able to recognize and interpret various traces. The Pregtest can assist you in detecting uterine infections, congestions, and even the occurrence of twins.

Conditions other than pregnancy

The same conditions that can be confused with a pregnancy spike in mini mares are also possible to pick up with ewes. Please refer to “Checking Pregnancy in Mares” section.

Pregtest trouble shooting guide

Problem	Possible Cause	Solution
Unit does not turn on.	Check to see if yellow or red charge light is on.	If yellow or red light is on unit needs charging. Charge unit.
	Battery pack discharged.	Charge Unit. If it does not hold a charge call Animark.
	Battery pack requires replacing.	Send to Animark for repair.
	Fuse blown	Replace fuse or call Animark.
	Short in electronics. Oil inside case.	Send to Animark for repair.
	Malfunctioning electronics.	Send to Animark for repair.
Green Charge Led does not come on.	Unit not fully charged.	Charge Unit
	Battery pack discharged.	Charge Unit. If it does not hold a charge call Animark.
	Battery pack requires replacing.	Send to Animark for repair.
	Fuse blown	Replace fuse or call Animark.
Charger Plugged in but no red charge light	Defective battery charger	Call Animark. Replace charger.
Do not get any signal on display.	Reject control too high.	Turn down reject control. turn Counterclockwise
	Unit battery pack not charged.	Charge unit.
	Sensor not plugged in all the way.	Check sensor cable connections.
	Cable is defective.	Check for obvious damage. Call Animark.
	Poor contact with animal.	Add vegetable oil or gel. Try again.
	Unit battery pack not fully charged.	Charge unit.
	Unit not drawing enough power. No whine audible.	Turn Off. Then turn back on.
	Sensitivity too Low.	Turn Sensitivity up. Turn control clockwise.
	Defective Transducer.	Use Pregtest "tupperware test". If it does not work call Animark.
Too many spikes on display	Sensitivity too High.	Turn Sensitivity control down. Turn counterclockwise.
	Sensor not pointed in the correct area.	Remove sensor and consult manual on sensor placement.
	Reject control turned all the way down.	Turn Reject control up. Turn control clockwise.
Weak signal or spike.	Sensitivity too Low.	Turn Sensitivity control up. Turn control clockwise.
	Reject control too high.	Turn Reject control down. Turn counterclockwise.
	Unit battery pack not charged.	Charge unit.
I get spikes at beginning of display	This is normal. Signal showing skin, muscle or fat.	Ignore early signal.
I get spikes around 6 cm	Possibly pointing at full Bladder.	Try again or try later.
I am sure the animal is pregnant but no pregnancy spike shown.	Sensor not pointed at uterus.	See sensor placement in Pregtest manual.
	Pregnancy too early for detection	See Pregnancy checking chart.
I know animal is not pregnant but get pregnancy spike at range expected.	Signal is bouncing off of the cervix.	Try taking another reading. Point sensor slightly forward.
	Signal bouncing off full bladder.	Try taking another reading. Point sensor slightly forward.
	Condition other than pregnancy.	See section under mares on conditions other than pregnancy.

If you continue to have trouble, please contact our customer service department at 303-343-8342.

Checking your Pregtest (“Tupperware test”)

If you like, when you first receive your Pregtest, you can verify and practice the operation of your unit with the following procedure. It is very easy and will give you confidence without having to be outside with an animal.

Place a rectangle rubbermaid (or similar) plastic container approximately 12" x 10” x 4 " on a table and fill it with water.

Connect the cable and sensor to your machine. Turn it On to the “High” range. Set the Sensitivity to 8 and the Reject to 4. Apply a little water to the face of the sensor and place it firmly on the outside front of the container. Put your hand in the water and move your hand toward and away from the sensor. Observe the Pregtest display and note that the vertical line of lights moves in correspondence to the distance of your hand from the sensor.

Adjust "Reject" and "Sensitivity" such that you see only one clear spike. Two spikes are ok. This test will verify that your Pregtest is functioning properly.

Care and cleaning

Even though your Pregtest is designed for rugged use, excessive rough handling of the instrument is undesirable. Sharp bends in the connector cable, especially near the ends, should be avoided.

During field use, the Pregtest unit should be kept as clean and as dry as possible. Although the case is designed to protect the instrument's components from the elements, common sense should prevail and the unit should not be used in thunderstorms, dust storms, etc. Try to avoid spilling oil or ultrasound lubricant on or into the case. After each use, it should be wiped clean of any moisture or dirt. Occasionally, the case and sensor may be cleaned with a light duty general-purpose household cleaner. Allow to thoroughly dry prior to storage.

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.

Battery care instructions

The Pregtest is powered by a rechargeable nickel cadmium battery pack. The cells in this pack discharge to some extent even when the unit is not turned on, so it is necessary to recharge the battery occasionally even when the instrument is not being used for long periods of time. The battery will discharge (without instrument use) over a period of weeks to months, depending on the temperature. Batteries discharge faster when outside temperature is high or extremely low.

If power-holding capacity is decreased, cycling the battery several times can restore it. Cycling means to recharge for 8-10 hours, then discharge by leaving the unit ON until the red light comes on, then recharge again. Note that if the battery gets very low (when there are no lights on the screen and a red battery indicator light), the unit MUST be turned OFF immediately and the battery recharged. Similarly, if the battery is left on charge for a long period (weeks or months), it can lose capacity. In this case, cycling the battery per the above instructions can restore battery capacity. This time start by discharging. If the unit is not to be used for some months, it is a good idea to cycle once every month.

To charge the batteries, push the charger plug into the jack marked "charger" on the face of the Pregtest. Plug the charger into any standard 115 to 120 volt power source (or any standard 220 volt power sources when using the optional 220 volt charger). Fully charged, the batteries can supply the unit for approximately 4 to 5 hours of continuous use, even longer if the unit is turned off between tests. The charger is designed to charge the battery fully in 8-12 hours, but the charger can be left on for several days without damage. When charging, the switch must be OFF or the battery will continue to discharge. BATTERY DAMAGE CAUSED BY EXCESSIVE DRAINING IS NOT CONSIDERED ORDINARY USE AND IS NOT COVERED BY THE WARRANTY. Leaving the unit turned on after the battery is discharged may also damage the battery. Be sure to turn the instrument OFF when not in use. If the unit has been stored for a long time without periodic discharging, the battery loses capacity and will not operate for the normal time on a single charge without cycling the battery pack. In this case cycle the batteries 2 or three times.

Owner responsibility for return shipping

It is the responsibility of the owner to pack the instrument securely for return and to pay shipping and insurance costs to and from the repair center.

Warranty and service

All instruments manufactured by Animark, Inc. are warranted to be free from 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.

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

If your instrument requires service, please call Animark before shipping the unit. 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 instructions. Our Number is 303-343-8342.

When shipping an Animark instrument, please insure it and send to: Animark Inc. 876 Ventura St Aurora Co 80011.

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 nontransferable and applies only to the original purchaser.

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 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.

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 Pregtest. 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 your 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 Pregtest. 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 recognizing pregnancy has been shown to be reliable in large numbers of animals. The likelihood of error is in the direction of false pregnant calls rather than in false non-pregnant calls. However, error in either direction is possible. Properly used, the Pregtest will provide a high degree of information on pregnancy or other situations. Other than this, Animark does not make any claims or guarantees as to the efficiency of the instrument, nor is any other guarantee made or implied.

Welcome to Animark!
We value you
As a customer!

Other instruments by Animark

The Ovascan

Breeding predictor

The Ovascan is a rugged, rechargeable battery-operated electronic instrument used to predict and confirm ovulation in cows, mares, miniature mares, and other mammal species. It has a detachable, washable probe with a flexible coiled cable. Readings are displayed on a digital LCD.

Timing is everything

All mammals conceive on Ovulation. Ovulation is the release of a mature egg. The egg travels to the fallopian tubes where it waits to be fertilized. The sperm is deposited in the vagina and "swims" upstream to find the egg. This whole process takes up to 24 hours, so the **sperm must be deposited in advance of ovulation.**

"Heat" can be observed before during or after ovulation. You cannot rely on visual indicators of heat to time conception.

With the Ovascan, you can expect:

- **Up to five days advance notice of ovulation**
- **An increase in breeding productivity**
- **Reduced wear on your bull or stallion**
- **When using AI, to save on valuable semen**

Using the Ovascan to predict ovulation

Once a day you insert the probe into the vaginal tract of the animal. Readings appear on the display after 10 seconds. Predictable patterns in the readings are easily recognized and inform the operator of the animal's most fertile time.

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.

For More information on these products please call us or visit our website @ www.animark.us. Thank You!