



## Frequently Asked Questions

### **How does Select Detect work?**

Select Detect measures cow activity by combining computer technology and nanotechnology sensing, which measures acceleration and gravity induced reaction forces. Periodically, recorded data is downloaded wirelessly to the base station. The Select Detect software running on the PC downloads the activity data from the base station to the PC for analysis. The farm manager then uses the activity analysis software to review, analyze and monitor cow activity to assist in detecting heats.

Since the software tracks all activity or lack thereof, the system can also help detect lame, cystic and anestrous (non-cycling) cows.

### **What makes Select Detect different from any other activity system on the market?**

Select Detect offers unparalleled activity measurement accuracy as a result of nanotechnology based accelerometer sensing. This is the same technology that controls airbag deployment systems, inertial navigation systems and many consumer products like the iPhone, iPad and iPod to name a few.

Another unique feature of Select Detect is that the activity analysis software uses 14 different mathematical equations to analyze collected data for each hour of the day and filter head movements and includes data on the entire herd's activity to track what is normal activity and what is low or elevated activity. It is this intelligence that makes the system the most accurate available.

### **Will Select Detect work in every herd environment?**

With the possible exception of tie-stall environments, Select Detect can be fully customized to all herd management systems. In fact, the analysis software can easily be adjusted for parity groups, housing environment, low and high activity range, number of days you wish to see on the report, when and how often you would like for data to be uploaded from the on-board computer located on the collars and more.

Because data is transmitted from the neck-collars using radio frequency there is no need for animals to pass through a portal in order to transmit data to the base station saving you extra investment in additional installation time. This also means that you can check for activity when it is most convenient. Use of radio frequency also means that Select Detect can be implemented in most heifer management systems.

### **How far will the collars transmit to the base station?**

The collars will transmit within a 300 foot radius of the base station without obstruction. The base station is continually "listening" for collar downloads. Typically the base station is located near or within the area where cows are housed or in the collecting area of the milking parlor. The advantage of locating the base station near cow housing is that data may be obtained sooner and if cows are detected in heat it may notify the user earlier in the day.

### **Will the radio signal pass through walls or other buildings?**

Transmitter signals can pass through certain materials such as cinder block, brick, wood and drywall, but will not pass through metal walls. However, radio signals can be reflected by metal and detected by the base station. If there are a lot

of metal structures in the heat detection area a radio frequency site survey using a range tester should be conducted by a qualified Select Detect specialist prior to installation.

**Will the radio frequency that Select Detect uses interfere with anything on my farm or will anything on my farm interfere with it?**

It is unlikely that anything will interfere with Select Detect data transmissions given the technology that has been built into the system to avoid this problem. However, it is not impossible. The most likely interference would be from a cellular tower, radio tower, or high tension power lines in the proximity of your farm.

Select Detect does not interfere with RFID ear tags. In fact, the system is compatible with some tags and can be linked to sort gates to sort cows with higher levels of activity for potential insemination or cows with lower activity to be evaluated for health issues.

**How can I tell if the collar is transmitting?**

The intelligent activity management software also includes an events table which includes a record of collars with low batteries, collars not downloading as well as active cows and low activity cows.

**What happens to the data if my electricity fails?**

The collars store data for 48 hours and the base station stores data for 48 hours (for up to 500 collars) to allow you the opportunity to restore power.

**I use headlocks in my housing/feeding area, will the collars be damaged or knocked off by cows putting their heads in and out of the locks?**

Select Detect collars are made of the highest quality materials and have undergone extensive impact testing. If the collars are fitted properly (snugly against the major neck muscle with the on-board computer box located just behind the cow's ear and the counterweight at the base of the neck) the collars should stay in place and endure impact. The collars showed an excellent retention rate exceeding 99 percent in Select Sires' field testing trial.

Another unique feature of the collars is that all parts are replaceable including the batteries, protecting your initial investment.

**I am concerned about a cow getting her collar caught on a piece of equipment and getting injured.**

The buckle on the Select Detect collar is designed to break with 1300 pounds of pressure.

**Are the collars and base station waterproof?**

The computer boxes located on the collar and the base station are water resistant. If the boxes are closed correctly the gasket will prevent water from entering the base station and monitors. The gasket in the containment box on the collars must be replaced each time batteries are replaced.

**How many collars will I need?**

The amount of collars needed will depend on when the cows will be monitored. If collars are applied soon after calving to detect "low" activity along with "high" activity it will take about half the herd size (basically all cows not diagnosed pregnant). If the collars are applied 7 to 10 days prior to the end of the voluntary waiting period, approximately 40 percent of the number of cows in the herd will give the number of collars needed. Another consideration must be when the collars will be taken off, at the first pregnancy diagnosis, when rechecked pregnant at 60 plus days, or 63 days after breeding with no subsequent high activity? A Select Sires Select Detect specialist can assist you to determine the number of collars needed in your herd.

**What kind of battery does the collar use and how often will I have to replace them?**

The collar's on-board computer uses 2 long-life lithium batteries that retail for approximately \$5.00. Battery life is determined by how frequent activity data is downloaded to the base station. The batteries are rated for 18 months but will depend on if collar units are in range of the base station and frequency of downloads to the base station. It is recommended that when batteries are replaced that the gasket between the two sides of the containment box also be replaced to ensure that the computer components stay dry. The cost of the gasket is \$4.05.

Collars employ an intelligent management system and only need .10 of a second to check in to the base station and upload which prolongs battery life.

### **What does a Select Detect system cost?**

A simple pre-installation evaluation can help determine your investment cost in Select Detect. To learn more about Select Detect contact the Select Sires member cooperative in your area. For a complete list of Select Sires members and contact information visit [www.selectsires.com](http://www.selectsires.com) or call the corporate office at (614) 873-4683.

### **How quickly will Select Detect Pay for itself?**

There are many models for estimating the costs of missed heats. These often take into account milk production losses, cost of replacement animals, the loss of genetic improvement and increased A.I. and labor costs. In the US, missed heats are estimated to cost \$2-3 per cow per day or \$42-36 per missed heat. Based on these costs, Select Detect can often pay for itself in 2-3 years depending on individual circumstances.

The average US dairy identifies approximately 50 percent of cows in heat. Select Detect allows the herd owner/operator to breed an additional 60 percent of the cows to a detected heat with the best opportunity to conceive. Trials show that you can expect an increase in percentage of heats detected (the average is 80-85%), therefore a higher percentage of cows pregnant at Vet check. These are just a few of the added economic benefits of Select Detect.

### **Is Select Detect difficult to install?**

Select Detect is relatively easy and quick to install. The system basically consists of a base station which will be mounted in the housing or holding area, collars to be fitted to cows and the installation of computer software to analyze activity data. The base station can be installed to communicate to the computer either through hardwire, which will require installation of wiring from the station to the computer or by Bluetooth technology.

### **Can I use my current farm computer with Select Detect?**

A basic guideline for a computer is that it should be a 32-bit machine with 1 gigabyte of RAM and 2 gigabytes of available memory. The computer must also have an available serial port. A Select Sires Select Detect specialist can provide you with a checklist to determine if your computer is capable of running the activity analysis software that is used with Select Detect. A computer can also be purchased for you as part of your Select Detect package.

### **Will Select Detect interface with my current herd management software?**

PCDART will interface with Select Detect for an additional fee of \$10 per month. DHI-Plus and DairyComp have interfaces with DairyMaster milking parlors but are under review for compatibility with the Select Detect system.

### **I am not very computer savvy, is the Select Detect user software easy to use?**

The activity analysis software is quite simple and intuitive to use. In addition, the system is backed by Select Sires' professional Select Reproductive Solutions (SRS) specialists who will be there to assist you as the system is installed and to help get you up and running. The SRS team is the largest, most well trained professional service team in the industry specializing in solving reproductive challenges.

### **How will Select Detect affect my current synch. program?**

The effect of Select Detect on your current synchronization program will depend on how aggressive you want to be with your days to first service and how much you want to reduce hormone intervention. Select Detect will provide you with the opportunity to detect a larger percentage of natural heats with less hormone use, allowing your cows to be cows.

Early trial herd data shows use of some prostaglandin injections and later timed Ovsynch or Cider Synch on cows that haven't exhibited heat 25-30 days after the voluntary waiting period (VWP). A majority of these cows were likely anestrous at VWP.