



SQA-Ve Equine User Guide

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Section 1: Overview

The SQA-Ve is a high performance analytical veterinary system that combines state-of-the-art technology in electro-optics, computer algorithms and video microscopy. The system can be used to conduct automated or manual testing. The SQA-Ve performs a rapid and reliable automated analysis of Raw, Extended, Cooled and Frozen equine semen at 37°C (98.6°F).

The SQA-Ve video visualization system allows the user the flexibility to view specimens at X300 through X500. Both the testing capillary and the standard slide placed onto the slide adaptor can be used in the SQA-Ve visualization system.

RAW samples: The SQA-Ve automatically analyzes, reports and prints test results. These test results can be automatically transferred to E-Sperm (PC software included with each SQA-Ve) which has an automated AI dosing feature and many reports available for analysis.

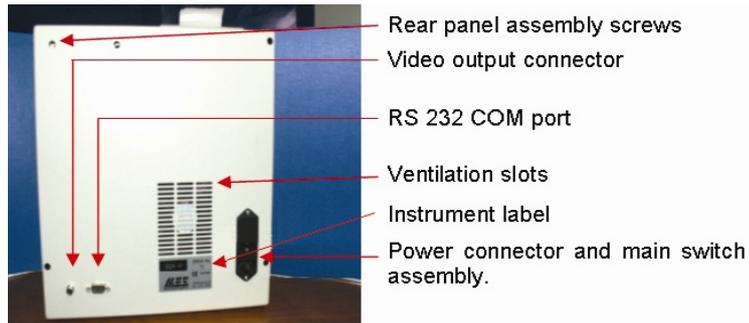
EXTENDED/COOLED/FROZEN samples: This feature is used to automatically assess the quality of extended/cooled/frozen semen.

Section 2: System Overview

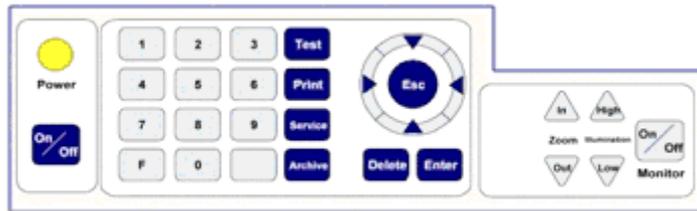
The Front Panel



Rear/Side Panel

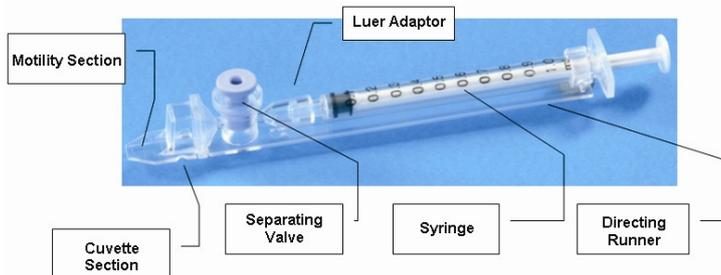


Keypad and Navigation



- Use numeric keys for entering sample data.
- The TEST key is for service personnel only
- Use the PRINT key for printing the test results.
- The SERVICE key is for entering the service menu (please see Section 5).
- Archive key is disabled (Please see Section 6).
- Use the ARROW keys to move within the screens.
- Press ENTER to select menu options and to move to the next screen or row.
- Press ESC to return to a previous screen or row.
- Press DELETE to correct a sample data entry error prior to testing.

SQA-Ve Testing Capillary



The re-usable, washable testing capillary consists of the following parts:

- Plastic, multi-use (animal use only), disposable.
- Can be used in both the SQA-Ve measurement and visualization chambers.
- Refer to the appendix section of this guide for complete instructions on how to use the testing capillary.

Slide Adaptor



- Use a standard laboratory slide 76 x 25.6 mm and 22 x 22 mm cover-slip.
- Sample should be placed where indicated by the yellow dot.



Section 3: Operating the SQA-Ve

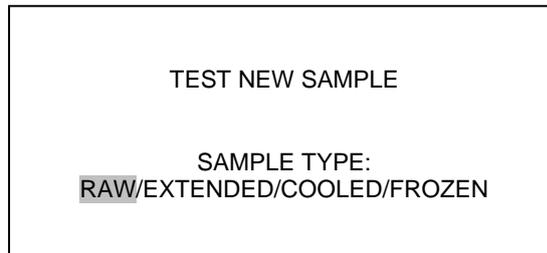
- Turn on the main switch on the rear panel of the SQA-Ve.
- The power indicator and 37°C heating indicator will illuminate.
- Press the On/Off key on the SQA-Ve keypad.
- The system will automatically auto-calibrate and then display the # **Tests Remaining** on the I-button.
- Press the **ENTER** key to view the **MAIN MENU**.

Two options are available from the **MAIN MENU** after the system is turned on:

- **TEST NEW SAMPLE**
- **SERVICE**

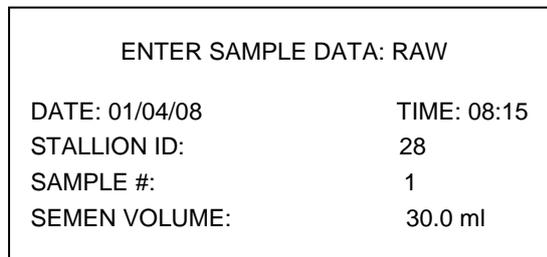
Section 4: Sample Testing

- Select **TEST NEW SAMPLE** from the MAIN MENU to open the screen below which displays four sample type testing options:



Raw Samples

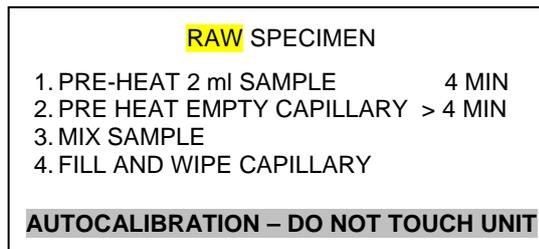
Select **RAW** sample type and the screen below will be displayed:



Enter the following:

- **Stallion ID:** up to 8 digits
- **Sample #:** up to 10 digits
- **Semen Volume** (Gel free): up to 3 integers and 1 decimal point.

Press ENTER and the system will autocalibrate – do not touch!



- Prepare a **RAW** sample for testing when the screen above is displayed.
- Instructions for preparing a **RAW** sample:

NOTE: Load I-button tests and set system defaults **PRIOR** to testing (see Section 5 for full instructions)

NOTE: Raw sample (2 ml) need to be preheated to 37°C for 4 minutes prior to testing.



NOTE: All dosing features are described in the E-Sperm User Guide in the second part of this manual.

- Transfer results to E-Sperm following the instructions on the screen:

TO TRANSFER RESULTS TO E-SPERM
PRESS: "IMPORT TEST" BUTTON
IN E-SPERM

PRESS ENTER
TO RETURN TO MAIN MENU

Extended/Cooled Samples

EXTENDED samples are defined as RAW equine semen diluted with a commercial extender.

COOLED samples are defined as EXTENDED samples kept in cooling conditions.

- Select: TEST NEW SAMPLE from the Main Menu
- Select: EXTENDED or COOLED and the screen below will be displayed:

NOTE:
Preheat the sample (2 ml) to 37°C;
EXTENDED: 4 minutes
COOLED: 7 minutes

ENTER SAMPLE DATA: EXTENDED/COOLED

DATE: 01/04/08	TIME: 08:15
STALLION ID:	28
SAMPLE #:	1
SEMEN VOLUME:	20.0 ml

Enter the following:

- **Date** and **Time** will be displayed by the unit
- **Stallion ID:** up to 8 digits
- **Sample #:** up to 10 digits
- **Semen Volume** (the actual dose volume): up to 3 integers and 1 decimal point.

When a COOLED sample is run, it is necessary to know if the sample has been cooled for more than 24 hours. Select YES/NO in the screen below:

PLEASE SELECT:
SAMPLE COOLED > 24 HOURS

YES/NO

Press **ENTER** and the system will autocalibrate – do not touch! Do not insert the testing capillary!

EXTENDED SAMPLE

1. PRE-HEAT 2 ml SAMPLE **4 MIN**
2. PRE-HEAT EMPTY CAPILLARY > 4 MIN
3. MIX SAMPLE
4. FILL AND WIPE CAPILLARY

AUTOCALIBRATION – DO NOT TOUCH UNIT



COOLED SPECIMEN

1. PRE-HEAT 2 ml SAMPLE **7 MIN**
2. PRE-HEAT EMPTY CAPILLARY > 4 MIN
3. MIX SAMPLE
4. FILL AND WIPE CAPILLARY

AUTOCALIBRATION – DO NOT TOUCH UNIT

Fill a pre-heated testing capillary with pre-heated (4 MINUTES) EXTENDED or pre-heated (7 MINUTES) COOLED sample following the on-screen instructions.

- A BEEP will sound AND the following screen will be displayed when the system is prepared to accept a testing capillary (do not touch the system or insert a testing capillary until this screen is displayed).

EXTENDED SAMPLE

5. PRE-HEAT 2 ml SAMPLE **4 MIN**
6. PRE HEAT EMPTY CAPILLARY > 4 MIN
7. MIX SAMPLE
8. FILL AND WIPE CAPILLARY

INSERT CAPILLARY INTO CHAMBER

COOLED SAMPLE

1. PRE-HEAT 2 ml SAMPLE **7 MIN**
2. PRE HEAT EMPTY CAPILLARY > 4 MIN
3. MIX SAMPLE
4. FILL AND WIPE CAPILLARY

INSERT CAPILLARY INTO CHAMBER

- **Insert the testing capillary into the measurement chamber.** The testing capillary will now be pre-heated for about 60 seconds.

PLEASE WAIT
PRE-HEATING CAPILLARY

- Testing will begin automatically and take approximately 40 seconds.
- A “beep” will sound and the screen below will display the automatically saved semen analysis report:

SEMEN ANALYSIS REPORT:
EXTENDED/COOLED SAMPLE

DATE:	01/04/08	TIME:	8:15
STALLION ID:	2825841		
SAMPLE #:	114		
SEMEN VOLUME:	20.0 ml		
COOLING TIME > 24H	YES (COOLED ONLY)		



- Press **ENTER** to view the test results:

TEST RESULTS: EXTENDED/COOLED SAMPLE			
CONC.	67.5 M/ml	MSC	45.0 M/ml
MOTILITY	66.6 %	PMSC	27.2 M/ml
PROG. MOT.	40.3 %	VELOC.	66 mic/sec
TOTALS PER SEMEN VOLUME			
# SPERM	1.35 Bil		
MOT. SPERM	0.90 Bil		
PROG. SPERM	0.54 Bil		

- If Motility is $\leq 30\%$ and $\geq 10\%$ in the sample, the report will display only motile and progressively motile spermatozoa per semen volume (AI dose).

TEST RESULTS:	
MOTILITY $\leq 30\%$	
TOTALS PER SEMEN VOLUME	
MOT. SPERM	1.62 Bil
PROG. SPERM	0.83 Bil

- If Motility is $< 10\%$ in the sample, semen parameters cannot be accurately measured and the screen below will be displayed.

TEST RESULTS:	
MOTILITY $< 10\%$	
SEMEN PARAMETERS CANNOT BE MEASURED	

Frozen Samples

- Select: **FROZEN** from the TEST NEW SAMPLE screen in the Main Menu.

ENTER SAMPLE DATA: FROZEN	
DATE: 01/04/08	TIME: 08:15
STALLION ID:	28
STRAW DATE:	10/09/07
SAMPLE #:	1
SEMEN VOLUME:	0.500 ml

Enter the following:

- **Stallion ID:** up to 8 digits
- **Straw Date:** according to the straw labeling
- **Sample #:** up to 10 digits
- **Semen Volume** (actual straw volume): up to 2 integers and 3 decimal points.



Press **ENTER** and the system will autocalibrate – do not touch! Do not insert the testing capillary!

NOTE:

Preheat the frozen sample (0.5 ml) to 37°C for 4 minutes prior to testing.

FROZEN SPECIMEN	
1. PRE-HEAT THAWED SAMPLE	4 MIN
2. PRE-HEAT EMPTY CAPILLARY	> 4 MIN
3. MIX SAMPLE	
4. FILL CAPILLARY	20 microliters
5. WIPE TESTING CAPILLARY	
AUTOCALIBRATION – DO NOT TOUCH UNIT	

- Fill a pre-heated testing capillary with pre-heated FROZEN sample (Refer to Appendix I: Semen Sample Preparation and Appendix VIII: Block Heater Operating Instructions).
- Follow the instructions in the SQA-Ve User Guide Appendix III for Filling a Capillary with a Low Volume sample (20µl).
- A BEEP will sound AND the following screen will be displayed when the system is prepared to accept a testing capillary (do not touch the system or insert a testing capillary until this screen is displayed).

FROZEN SPECIMEN	
1. PRE-HEAT THAWED SAMPLE	4 MIN
2. PRE-HEAT EMPTY CAPILLARY	> 4 MIN
3. MIX SAMPLE	
4. FILL CAPILLARY	20 microliters
5. WIPE TESTING CAPILLARY	
INSERT CAPILLARY INTO CHAMBER	

- **Insert the testing capillary into the measurement chamber.**
- The SQA-Ve will now pre-heat the capillary in the measurement chamber for approximately 60 seconds.

PLEASE WAIT PRE-HEATING CAPILLARY

- Testing will begin automatically and will take about 45 seconds.
- A “beep” will indicate when the testing is done, the results will be automatically saved and the following screen will be displayed:

SEMEN ANALYSIS REPORT: FROZEN SAMPLE	
DATE: 01/04/08	TIME: 8:15
STALLION ID:	28
STRAW DATE:	10/09/07
SAMPLE #:	1
SEMEN VOLUME:	0.500 ml



- Press ENTER to view the test results:

TEST RESULTS: FROZEN SAMPLE			
CONC.	NA M/ml	MSC	259.1 M/ml
MOTILITY	77.9 %	PMSC	183.9 M/ml
PROG. MOT.	55.3 %	VELOC.	32 mic/sec
TOTALS PER SEMEN VOLUME			
# SPERM	NA M		
MOT. SPERM	129.6 M		
PROG. SPERM	92.0 M		

- Sperm Concentration and # Sperm per semen volume are not reported for the Frozen semen.
- If Motility is $\leq 30\%$ and $\geq 10\%$ in the Frozen sample only motile and progressively motile spermatozoa per semen volume is reported.

TEST RESULTS:	
MOTILITY $\leq 30\%$	
TOTALS PER SEMEN VOLUME	
MOT. SPERM	50.0 M
PROG. SPERM	30.0 M

- If Motility is $< 10\%$ in the Frozen sample semen parameters cannot be accurately measured and no test results will be reported.

MAIN MENU:

The MAIN MENU is displayed after each test is run:

MAIN MENU
TEST NEW SAMPLE
RECALL LAST TEST RESULTS
RETEST SAME SAMPLE
SERVICE

- RECALL LAST TEST RESULTS: Test results can be recalled for viewing.
- RETEST SAME SAMPLE: Re-run the sample without re-entering the sample data. To run duplicate tests for REPEATABILITY, **keep the testing capillary in the measurement slot and select RETEST SAME SAMPLE without removing the testing capillary.** Both replicates will be saved automatically and can be transferred to E-Sperm for analysis.

Section 5: SERVICE MENU

Select the **SERVICE MENU** and the following options are available:

- **SERVICE DATA**
- **SERVICE PERSONNEL**
- **PRINT SELF-TEST DATA & SETTINGS**
- **SETTINGS**
- **ADD I-BUTTON TESTS**

SERVICE DATA:

Select this option to view three service screens:

- **Service Data screen (Communication screen):**
 - Activate this screen to establish a communication between the SQA-Ve and the PC in order to transfer test results to E-Sperm.
 - Service information for technical support is viewed from this screen.
- **Self-Test Data screen:** This screen provides information for troubleshooting testing errors by displaying Self-Test and Internal Data.
- **Algorithm data screen:** This screen displays algorithm calculations.

SERVICE PERSONNEL: For Technical service support (requires a password).

PRINT SELF-TEST DATA & SETTINGS:

- Highlight this option in the **SERVICE MENU** and press **ENTER**.
- Select: **Self-Test Data** or **Test Settings** and press **ENTER** to print.

SETTINGS:

Select this option to set the system and sample defaults.

System Default Settings:

- **LOCAL TIME:** enter local time
- **DATE FORMAT:** Select the format **DD/MM/YY** or **MM/DD/YY** using the right/left arrows on the keypad.
- **DATE SETTING:** enter current date
- **AUTOMATICALLY PRINT?** Select **YES/NO** to automatically print test results after running a test (recommended setting: YES)
- **RICH FRACTION COLLECTED:** The default is **NO**. If a rich ejaculate fraction is collected select **YES**.

ADD I-BUTTON TESTS:

The SQA-Ve requires tests be “loaded” using an I-Button.

- Select **SERVICE > SERVICE MENU > ADD I-BUTTON TESTS** and press **ENTER**.
- The SQA-Ve screen will instruct the user:
TO ADD I-BUTTON TESTS:
 - CONNECT THE SQA-Ve TO THE PC
 - ACTIVATE E-SPERM ON THE PC
 - FROM E-SPERM SELECT: SET-UP/I-BUTTON
 - FOLLOW THE INSTRUCTIONS

- Hold the I-Button firmly in the port making sure it touches both the internal surface and the edges of the port.
- Continue to hold the I-Button in place until the **#TESTS ADDED** and the cumulative **#TESTS REMAINING** are displayed on the E-Sperm screen.
- The user is informed when:
 - Less than 10 tests are available.
 - No more tests are available.

Section 6: Troubleshooting

Stabilization Failed:

STABILIZATION FAILED
TURN OFF MAIN SWITCH ON REAR PANEL
REACTIVATE UNIT

IF PROBLEM PERSISTS,
CALL FOR TECHNICAL SUPPORT

- Ensure there is no testing capillary in the measurement compartment.
- Remove the SQA-Ve from sources of electronic noise and/or vibration (centrifuge, cell phones, etc.).
- Clean measurement compartment (refer to Appendix IV).
- Reboot the SQA-Ve without a testing capillary in the chamber:
 - Turn system **OFF** then back **ON** at the main switch on the rear panel.
 - Press the front panel **ON/OFF** key to begin Auto-Calibration/Self-Test
 - Call for technical support if failure recurs.

Failed Self-Test:

FAILED SELF-TEST
TURN OFF MAIN SWITCH ON REAR PANEL
CLEAN OPTICAL CHAMBER
REACTIVATE UNIT

IF PROBLEM PERSISTS,
CALL FOR TECHNICAL SUPPORT

- Ensure there is no testing capillary in the measurement compartment.
- Remove the SQA-Ve from sources of electronic noise and/or vibration (centrifuge, etc.).
- Clean measurement compartment (refer to Appendix IV).
- Reboot the SQA-Ve without a testing capillary in the chamber:
 - From the rear panel switch, turn the system **OFF** then back **ON**.
 - Press the front panel **ON/OFF** key to begin Auto-Calibration, Stabilization and Self-Test.
- Call for technical support if this message is displayed again. Prepare for technical support by printing a copy of the SQA-Ve Self-Test/Service Data:
 - Press **SERVICE** key. The **SERVICE MENU** will be displayed.
 - Select **PRINT SELF-TEST DATA & SETTINGS** option.
 - Select **SELF-TEST DATA** and press **ENTER** to print a copy of the self-test/service data.

Electronic Noise:

ELECTRONIC NOISE
TURN OFF MAIN SWITCH ON REAR PANEL
REACTIVATE UNIT

IF PROBLEM PERSISTS,
CALL FOR TECHNICAL SUPPORT

- Ensure there is no testing capillary in the measurement compartment.
- Remove SQA-Ve from sources of electronic noise and/or vibration (centrifuge, etc.).
- Clean measurement compartment (refer to Appendix IV) and then:
 - Activate **MAIN MENU > TEST NEW SAMPLE** and re-run the test.
- If this message is displayed again, reboot the SQA-Ve:
 - Turn the system **OFF** then **ON** at the main switch on the rear panel.
 - Press the front panel **ON/OFF** key to begin Auto-Calibration and Stabilization.
 - From MAIN menu: Select **TEST NEW SAMPLE** and re-run.
 - Call technical support if this message is displayed again. Prepare for technical support by printing a copy of the Self-Test/Service parameters:
 - Press **SERVICE** key. The **SERVICE MENU** will be displayed.
 - Select **PRINT SELF-TEST DATA & SETTINGS**.
 - Select **SELF-TEST DATA > ENTER** to print the service information.

Remove Capillary:

If the testing capillary has been left in the measurement chamber after testing a sample and prior to testing the next sample this screen will be displayed (Except when the RETEST SAME SAMPLE function has been selected):

REMOVE CAPILLARY
FOLLOW ON-SCREEN INSTRUCTIONS

Appendix I: Semen Sample Preparation

EQUIPMENT REQUIRED:

- 10-ml plastic container
- Regular volumetric and/or Pasteur pipette
- SQA-Ve capillary
- Heater (Please refer to Appendix VIII: Block Heater Operating Instructions)
- 20-micron Nylon Filter to filter samples with debris

RAW/EXTENDED/COOLED SEMEN SAMPLES:

SAMPLE PREPARATION

1. Place SQA-V capillaries and 10-ml plastic containers in the heating unit.
2. Distribute 2-ml aliquots of semen into 10-ml containers.
3. Close the plastic containers and pre-heat the semen to 37°C (98.6°F) for 4 minutes (RAW/EXTENDED room temperature samples) or for 7 minutes (COOLED samples).
4. Gently but thoroughly mix the sample for 10 seconds (Figure 1).
5. The sample is now ready for testing.
6. Fill a pre-heated to 37°C (98.6°F) SQA-Ve testing capillary following the instructions in the Appendix II: Capillary Filling Instructions: Normal Volume (Raw Specimens).

NOTE:

When using the external heating device, set the temperature to 40°C in order to heat the samples to 37°C.

FROZEN SEMEN SAMPLES:

SAMPLE PREPARATION

1. Thaw a frozen straw in a 37°C (98.6°F) water bath.
2. Expel the thawed sample (20 microliters required for testing) into a pre-heated 10-ml plastic container.
3. Heat the sample to 37°C / 98.6°F for 4 minutes.
4. Gently but thoroughly mix the sample.
5. The sample is now ready for testing.
6. Fill a pre-heated to 37°C / 98.6°F SQA-Ve testing capillary with the semen sample following the instructions in the Appendix III: Capillary Filling Instructions: Low Volume Sample (Frozen Specimens).

How to quickly observe samples for debris

Option 1:

- Insert the testing capillary into the visualization compartment of the SQA-Ve (Refer to Appendix VII: The Visualization System).
- Optimize the image and scan the capillary depth using the focus knob.

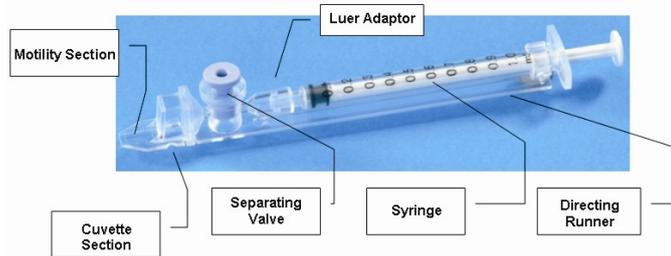
Option 2:

- Place 10 µl of sample onto a standard slide, cover it with 22 mm x 22 mm coverslip and insert into the visualization compartment of the SQA-Ve using the slide adapter.
- If debris (big aggregates of epithelial cells) is observed, use a 20-micron nylon mesh to filter ~ 2 ml of sample (place the filter on a 10-ml plastic container and place the semen on the filter using a Pasteur pipette).

NOTE:

Semen containing a lot of debris should be filtered with a 20-micron mesh filter prior to testing.

Appendix II: Capillary Filling Instructions: Normal Volume (Raw/Extended/Cooled Specimens)



1. Push the syringe piston in fully. Place only the thin part of the capillary into the bottom of the sample (Figure 1).
2. Placing two fingers below the piston head pull the piston back slowly while keeping the tip of the capillary well below the sample level and below any surface bubbles (Figure 1). Continue to aspirate the sample until it appears in the Luer adaptor (Figure 2).
3. Hold the capillary in a vertical position and visually confirm that the sample has completely filled the thin section and the cuvette section and appears in the Luer adaptor (Figure 2).
4. Tap on the syringe to make sure there are no air bubbles in the sample.
5. Quickly and thoroughly wipe both the top and bottom of the outer surface of the capillary with a tissue (Figure 3).
6. Visually confirm that the capillary chambers are still full after wiping. If some of the sample has been depleted, a meniscus will be visible in the thin section of the capillary. If this is evident, push very slightly on the piston to re-fill the thin capillary section.
7. Slowly and carefully push-in the separating valve until it is level with the plastic. The capillary is now ready for testing (Figure 4).
8. Insert the capillary into the SQA-Ve (Figure 5)



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5

APPENDIX III: Capillary Filling Instructions: Low Volume Sample (Frozen Specimens)

Sample size, collection container and preparation:

1. For Low Volume Sample Testing, a minimum of 20 microliters is required to fill just the thin section of the testing capillary (Figure 1).
2. The semen sample must be **well mixed prior to aspiration**. Gently rotate the container to fully mix the specimen. **WARNING:** Do not shake nor use a pipette to aspirate and dispense specimen in order to mix, otherwise air bubbles will form.
3. **Carefully check that the specimen is free of air bubbles** before immersing the capillary into the specimen.

Filling the capillary:

1. **Push the syringe piston in fully**. Place only the thin part of the capillary into the bottom of the sample.
 2. **Pull the piston back slowly** without withdrawing the capillary from the sample. **Fill only the (thin) capillary chamber** with 20 micro liters of semen. Aspirate the sample until it just appears in the cuvette part while keeping the tip of the capillary well below the sample level.
 3. Visually inspect the capillary to ensure that the sample has completely filled the thin section (no meniscus).
 4. Quickly and **thoroughly wipe the outer surface of the capillary** - It is important to remove all semen from the exterior of the capillary in order to prevent the SQA-Ve from becoming clogged.
 5. Visually confirm that the thin chamber of the capillary is still full of semen after completing the cleaning process. If some of the sample is missing push-in the piston slightly until a drop appears on the capillary tip and then fill the capillary again from the sample container.
6. The separating valve must now be removed.
 - Use the black jig (white jig shown) to firmly **push-out the separating valve** from the underside of the capillary (Figure 1).
 - Completely detach the separating valve (Figure 2). The capillary is now ready to be inserted into the SQA-Ve.
 7. **PLEASE NOTE:** Test Low Volume samples as soon as the sample is aspirated into the capillary!



Figure 1



Figure 3

APPENDIX IV: Cleaning the Capillary/Slide Compartment

When to clean:

Daily or after every 10-15 tests
If the system fails **SELF-TEST**

Cleaning kit components:

- Blue Dot capillaries (fig 1)
- Sponge-tipped drying capillaries (fig 2)
- Cleaning brush -wooden-handled (fig 4)
- Cleaning fluid

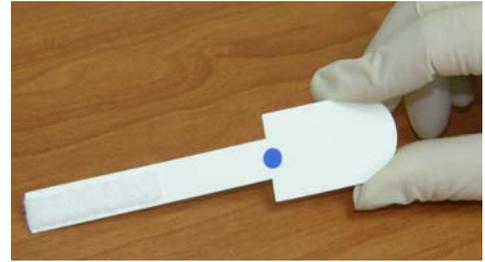


Figure 1

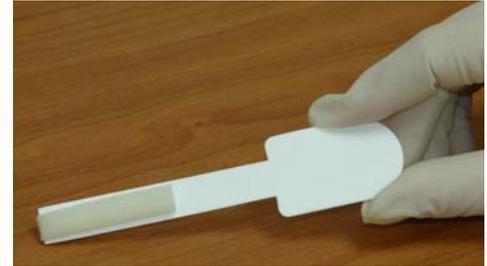


Figure 2



Figure 3



Figure 4



Figure 5

CLEANING: STEP 1

1. **TURN OFF** the SQA-Ve
2. Use a **BLUE DOT** fibrous material capillary (fig 1)
3. Moisten with **ONE** drop of cleaning fluid, shaking off excess fluid.
4. Insert into the measurement compartment - fibrous material facing up. Move back and forth a few times. Repeat with the material facing down.
5. Use a sponge-tipped drying capillary to dry the same compartment. (fig 3)

CLEANING: STEP II

1. Insert the brush (bristle-side down) into the lower chamber of the SQA-V (fig 5)
2. Pull the brush out of the chamber while sweeping or "dusting off" the lens (you will feel a step or shelf at the back and top of the chamber – this is the top of the lens).
3. Switch SQA-V **ON** and observe self-test results. The SQA-V should now **PASS** the self-test. If not, repeat cleaning procedure with the brush.

Appendix V: Capillary Washing Instructions



FOR ANIMAL SYSTEMS ONLY!!

Both testing capillaries and 10ml sample collection cups can be washed and re-used up to 10 times by following this EASY procedure:

Step 1 After running a test:

- Use the white capillary jig to re-position the blue capillary valve
- Expel semen by pumping the plunger a couple of times
- Soak the testing capillary in tap water until ready to wash

Step 2 Set-up: Fill with 1 liter/2 quarts of solution as follows:

- Bowl #1: Tap water (marked "TAP WATER")
- Bowl #2: Distilled water (marked "DISTILLED WATER")
- Bowl #3: Isopropyl Alcohol 70-100%

Step 3: Remove all liquid from the testing capillary:

- Pump the syringe plunger a couple of times to expel all remaining liquids.

Step 4: Capillary Washing – Follow this order:

- **Bowl #1 Tap Water:** Completely fill each capillary with tap water. Expel the solution into a hazardous waste container. **Repeat 2 times** then go to Bowl 2.
- **Bowl #2 Distilled Water:** Completely fill each capillary with distilled water. Expel the solution into a hazardous waste container. **Repeat 2 times** then go to Bowl 3.
- **Bowl #3 Isopropyl Alcohol:** Completely fill each capillary with isopropyl alcohol and expel the solution into a hazardous waste container. **Repeat 2 times.**
- After final washing, remove the plunger from the syringe.

Step 5: Drying the Capillaries:

- Place the capillaries on a flat surface to dry overnight or use the silica bead desiccator described in the Appendix section or place in a low heat oven for a few hours to dry.

Step 6: Final Preparation/Inspection:

- Replace the plunger into the syringe.
- Inspect the capillary and throw away if cracked, broken or semen remains.
- Note the number of washings by making a dot on the capillary with a water proof marker after each washing cycle.

Testing Capillary



Reposition the blue valve with the jig



Remove the plunger



Reassemble the capillary

Sample collection cups

Washing – Please refer to Step 4 Capillary Washing and follow the same process for washing in the solutions in bowls #1; #2 and #3. Turn upside down on absorbent paper to dry overnight.

Appendix VI: Capillary Drying Instructions

For Animal Applications ONLY!

A simple desiccator can be made to dry the washed QwikCheck™ QC testing capillaries using the silica gel beads provided in the QwikCheck™ QC start-up kit. The testing capillaries will dry in approximately 12-24 hours.

Materials/Equipment Required

- 1 kg of blue Silica gel beads
- 1 large airtight plastic box/jar container.
- Plastic netting to hold capillaries above the silica beads
- 50 washed capillaries

Drying Instructions

Step 1: Assemble the desiccator:

- Pour all of the Silica gel beads provided into the desiccation container.
- Put plastic net over the silica beads.
- Place 50 washed capillaries on the net.

Step 2: Close the desiccator:

- Tightly close the cover of the desiccator

Step 3: Capillary Drying :

- After 12-24 hours see if the capillaries are dry (without opening the cover).
- If the capillaries appear dry, open the desiccator and check closely to see if all of the water has evaporated from the capillaries.
- If they are still wet, check again in 2 hours.
- When dry, remove capillaries from the desiccator and tightly close the desiccator to preserve the silica beads.

Step 4: Capillary re-assembly

- Slide the plunger back into the syringe.
- Check the capillary for cracks, broken parts or remaining semen.
- Throw away capillaries that are damaged or contaminated.
- Mark the capillary with a dot after each washing-drying cycle.
- The capillaries are ready for use.

Step 5: Silica gel re-activation

- When the BLUE silica gel beads turn PURPLE/PINK they need to be dried.
 - Heat for 3 – 4 hours at 130 degrees C.
 - Mix the beads 3-4 times during the drying.
 - When the color of the beads turns BLUE, place the beads into the desiccator and close tightly.



Silica Gel Beads



Capillaries Drying

Appendix VII: The Visualization System

Samples can be viewed on the SQA-Ve Visualization System. Both the SQA-Ve testing capillary and a standard slide can be used in the visualization system. The system:

- Operates via control knobs to set focus, brightness, contrast and color, and via the keypad zoom, illumination, and monitor on/off functions.
- Has a magnification range: x300 to x500.

Operating Instructions:

Slide Preparation:

- Place 10 μ l of semen approximately 20 mm from the edge of the slide.
- Use only a standard slide with a 22 mm x 22 mm cover-slip.
- Load the prepared slide into the SQA-Ve slide adaptor and insert into the visualization compartment of the SQA-Ve.

Preparation of the SQA-Ve Testing Capillaries:

- Fill the SQA-Ve testing capillary with semen following the instructions in the appendix section of this guide.
- Insert the capillary into the visualization compartment of the SQA-Ve.

Operating Process:

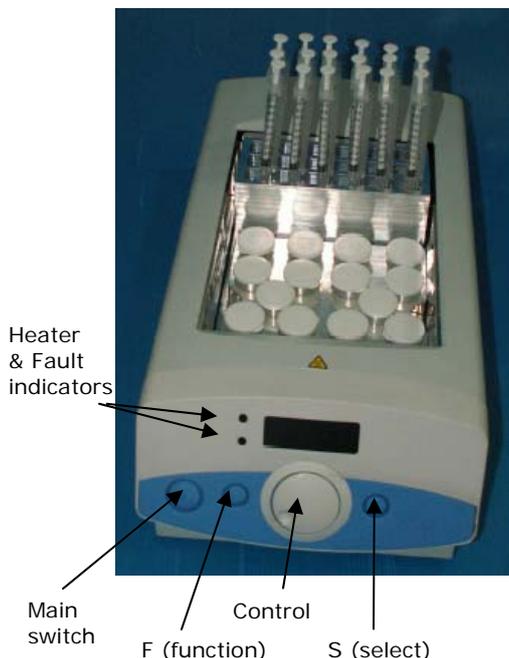
NOTE: Use caution when turning the focus knob. If resistance is felt it is at the maximum (or minimum) position. Forcing this knob beyond the stopping point may damage the focus system.

1. The video display illuminates when the SQA-Ve is turned on.
2. To ensure that the visualization system is working properly prior to use:
 - a. Press the **HIGH ILLUMINATION** key multiple times to achieve the maximum level setting.
 - b. Turn **BRIGHTNESS**, **CONTRAST** and **COLOR** buttons all the way counterclockwise.
 - c. Turn **FOCUS** knob fully clockwise.
3. Use **ZOOM IN** for maximum magnification (x500) or **ZOOM OUT** for minimum magnification (x300).
4. Insert the semen sample into the visualization chamber.
5. Turn the **BRIGHTNESS** knob clockwise until the video screen just begins to lighten-up.
6. Turn the **FOCUS** knob counter-clockwise until the image is in focus.
7. Adjust **CONTRAST**, **COLOR**, **BRIGHTNESS**, **FOCUS** and object **ILLUMINATION** controls for optimal image quality.

Appendix VIII: Block Heater Operating Instructions For Use with A-TECH Sperm Quality Analyzers with Heating Requirements

Safety:

- Do not pre-fill the SQA testing capillaries with semen prior to heating.
- Do not touch the heating elements to check the temperature.
- If transported or stored in humid conditions, dry the unit before connecting it to power.
- Plug into a grounded electrical outlet that delivers the appropriate voltage indicated on the rear panel of the heater.
- If liquid is spilled inside the unit, disconnect the power supply, take out the metal heating blocks and wipe the spilled material with a damp cloth. Do not use chemical cleaning agents.
- Place the system on a level surface that is free from flammable materials, insuring that all ventilation slots on the base of the system are clear of obstructions.



Heater Operation:

- Place the metal heating racks for capillaries and sample containers into the heating system.
- Plug the electrical cord into the socket at the rear of the unit.
- Turn the unit on by pressing the Main Switch on the front panel - The display will illuminate showing the current temperature of the block.
- Press the 'S' button and adjust the temperature to 40°C using the Control knob. This will ensure a 37°C temperature for the testing capillary and semen samples.
- Press 'S' to confirm the temperature setting or press 'F' to exit without changing the value.
- The block heater will now begin to heat the racks.
- A light will indicate that the system is heating and will begin to flash when the set temperature is approached.
- The temperature setting will be stored in the memory.

Timer Operation:

- Press 'F' button and turn the Control knob until 'CLOC' is seen.
- Press 'S' button and turn the Control knob until 'On' is seen.
- Press 'S' button and turn the Control knob to select the required time (Example: 4 minutes (004) for Equine).
- Press 'S' button: The time and the Temperature will be displayed intermittently.
- A beep will sound and 'End' will be displayed when the time has expired; press 'S' to stop beeping.

Heating the SQA Testing Capillaries and Samples:

- Place **empty** testing capillaries in the heating rack (as shown in the picture above).
- Place **empty** 10-ml plastic containers in the appropriate heating rack.
- Wait 5-7 minutes for the heating unit to pre-heat the containers and testing capillaries.
- Distribute the semen sample into 10-ml container following User Guide instructions.
- Close the containers during pre-heating.
- Remove testing capillaries as needed for testing. Fill with semen per user guide instructions.

Note: If the processor detects an error in heating the fault indicator will illuminate, the buzzer will beep and the display will flash. To reset this fault, switch the unit off and on. If the fault re-occurs contact the service personnel at your local distributor.

Appendix IX: Glossary of Terms

	Parameter	SQA-Ve Terms	Definition
Sample Data	Serial number	SN	Serial Number of the SQA-Ve
	Date & time	DATE/TIME	The date and time the test was performed
	Stallion ID	STALLION ID	The identifying number of the stallion being tested
	Straw date	STRAW DATE	The date and time the frozen semen straw was produced
	Sample number	SAMPLE #	The number assigned to the semen sample
	Semen volume	SEMEN VOLUME	Raw, extended, cooled or frozen semen volume expressed in ml
Test Results	Sperm Concentration	CONC.	Total sperm concentration expressed in millions/ml
	Motile Sperm Concentration	MSC	Motile sperm concentration expressed in millions/ml
	Motility	MOTILITY	The ratio between the motile and total sperm cells in the sample, expressed in %.
	Progressive Motility	PROG. MOT.	The ratio between the progressively motile and total sperm cells in the sample, expressed in %.
	Normal Morphology	MORPHOLOGY	The ratio between the morphologically normal and total sperm cells in the sample, expressed in %.
	Average velocity	VELOC.	The average velocity of the motile spermatozoa in the sample, in microns per second.
	Total # sperm cells	# SPERM	The total number of sperm cells per ejaculate (Raw semen) or per semen volume (Frozen/Extended/Cooled)
	Total Motile Sperm	MOT. SPERM	The total number of motile sperm cells per ejaculate (Raw samples) or per semen volume (Frozen/Extended/Cooled)
	Total Progressively Motile Sperm	PROG. SPERM	The total number of progressively motile sperm cells per ejaculate (Raw samples) or per semen volume (Frozen/Extended)

Appendix X: SQA-Ve System Specifications

Dimensions: 40 x 30 x 15 cm
Weight: 4 kg
AC power supply: 100 to 250 VAC, 50/60 Hz, 10 VA

Measurement Compartment

- **Sources of radiant energy** - two 880 nm LEDs for motility and spectrophotometry channels
- **Detector system** – 2 photo detectors - Motility and Optical Density

Visualization Compartment

- Green LED illumination system
- CCD, 350 TV lines
- Objective lens: Standard, x20
- Signal Output: PAL standard
- Zoom system for smooth magnification transition from x300 to x500
- Focus regulator

Display(s)

- Operational backlight LCD (16 lines x 40 characters)
- Video backlight LCD (8 x 10 cm)

Printer

- Built-in, Dot Matrix
- Non-thermostatic narrow paper with 20 characters per line (Citizen)
- Ribbon cassette (Citizen)

Keypad

- **Operational keys:** ON/OFF, TEST, PRINT, SERVICE, ARCHIVE (disabled), DELETE, ENTER, four cursor buttons, ESC, numeric buttons (0-9)
- **Video control keys:** ZOOM IN/OUT, ILLUMINATION HIGH/LOW, and MONITOR ON/OFF

Front Panel

- Built-in printer
- Visualization compartment
- LCD video display and controls
- Focus knob
- LCD operational display
- Measurement compartment
- Multi-button keypad

Rear/Side Panel

- Power connector with fuse-holder (fuse 250V, 1A)
- Video connector
- RS232 cable outlet
- I-Button port (side panel)

Specimen Testing Supplies

- **Measurement capillary:** Disposable, multi-use plastic, positive displacement testing capillary (purchase from manufacturer).
- **Standard lab slide:** 76 x 25.6 mm, 22 x 22 mm cover-slip.
- **I-Button:** Required to run tests (purchase from manufacturer)

Operating System

- **Control:** Keypad
- **Analysis Time:** 45 seconds



- **Software:** Resides on flash memory and drives all man-machine interface functions, runs algorithms for test measurements and operational screens. System can be upgraded from a PC CD-ROM.
- **Sample Testing Temperature:** 37°C (98.6°F).
- **Motility channel input signal:** Analog, up to 5V.
- **Spectrophotometer channel input signal:** Modulated (1 kHz) analog, up to 5V.

Quality Control

- **Internal:** Electronic Self-Test and Auto-Calibration.

PC Compatibility

Minimum requirements for E-Sperm™ software

- **PC:** 1 GHz processor, Pentium 3
- **RAM:** 256 MB
- **CD ROM drive**
- **Ports:** One serial

Operating system compatibility: Windows XP and VISTA

Operational Temperature and Humidity

- System is operational at 15-40°C.
- *NOTE:* SQA-Ve operates in a wide range of ambient temperatures however the system is calibrated to measure semen samples at 37°C (98.6°F).
- System is fully operational at up to 80% humidity and 31°C.

Maintenance Schedule

- Cleaning daily and after every 50 tests (refer to User Guide – "Cleaning Instructions").

Manufacturer Recommendations

- Operate the SQA-Ve away from devices that may cause electronic noise (cell phones) or other devices causing vibrations such as centrifuges.
- Turn system **OFF** at the rear-panel when not in use for extended period of time.
- Semen is considered a biologically hazardous material and is subject to individual laboratory protocols for handling such materials.

Factory Default Settings:

Date format: DD/MM/YY

Time/Date: Manufacturer's local time/date

Automatically print: YES

Appendix XI: SQA-Ve EQUINE Product Performance Data

Performance Data Summary:

The performance of the SQA-Ve is summarized in the text, tables and graphs below. All values concerning sperm concentration measurements are expressed as 10⁶ sperm cells per milliliter (M/ml). Motility values are expressed as a percent (%). Unless otherwise noted, all testing was performed using raw, extended, cooled and frozen equine semen samples. Manufacturers claims are generally lower than actual performance data. Please also note that Sensitivity & Specificity are clinical screening parameters that demonstrate the accuracy of device. Sensitivity demonstrates the ability of the SQA-Ve to correctly detect ABNORMAL cases. Specificity demonstrates the ability of the SQA-Ve to correctly detect NORMAL cases. Sensitivity & Specificity results are based on the cutoffs established by Society of Theriogenology. Each SQA-Ve device is biologically calibrated against two reference systems at Medical Electronic System's laboratory.

Abbreviations:

CONC: Sperm Concentration
 CV: Coefficient of Variation
 M/ml: Million per milliliter

Table 1. Dynamic Range

Sample Type	Concentration M/ml	% Motility	% Progressive Motility	% Normal Morphology
Raw	0-800	0-100	0-100	0-100
Extended	0-400	0-100	0-100	-
Frozen	0-1000	0-100	0-100	-

Sensitivity, specificity, precision and correlation to manual method established in the in-house and field clinical trials using equine semen samples.

Clinical claims:

Sensitivity

- Concentration: 90%
- Motility: 90%
- Prog. Motility: 90%

Specificity

- Concentration: 90%
- Motility: 90%
- Prog. Motility: 80%
- Morphology: 85%

Precision (Intra-device CVs)

- Conc.: 3%
- Motility: 3%
- Prog. Motility: 7%
- Morphology: 3%

Precision (Inter-device CVs)

- Conc.: 10%
- Motility: 10%
- Prog. Motility: 10%
- Morphology: 10%

Accuracy (regression coefficients of the dilution trend line)

- Conc.: 0.9
- MSC: 0.9

Table 2. Sensitivity/Specificity

SQA-Ve vs. Microscope	Sensitivity %	Specificity %	% False Positive	% False Negative
Sperm Concentration	96.4	100.0	0	2.2
Motility	95.0	96.3	2.1	2.1
Progressive Motility	100.0	90.0	4.3	0
Morphology	-	93.3	6.3	6.3

Table 3. Precision: SQA-Ve intra- and inter-device variability

Semen Parameters	Intra-device CV, %	Inter-device CV, %
Sperm Concentration	2.0	7.0
Motility	0.3	7.2
Prog. Motility	5.6	8.6
Morphology	0.3	2.6

Correlation to Manual Method

- Concentration: 0.9
- Motility: 0.9
- Prog. Motility: 0.8
- Morphology: 0.7

Notes:

- Sensitivity and specificity claims are lower than actual values noted (Table 2).
- Precision CV claims are higher (lower precision) than actual values noted (Table 3).
- Correlation to Manual Method claims are less than actual correlations noted (Table 4).

Method comparison:

The SQA-Ve was compared to the microscope based on WHO'99 manual guidelines. The SQA-Ve automated readings for sperm concentration, motility, progressive motility and morphology were compared to microscopic results. A Makler chamber was used according to the manufacturer's instructions for manual sperm concentration measurements. A microscope and standard slide were used to manually assess motility. Stained slides were used for the manual morphology examination. The protocols were based on WHO'99 manual and MES guidelines. The clinical trials were conducted at the Medisoos vet clinic. A total of 201 raw, extended, cooled and frozen semen samples were analyzed.

Accuracy: Dilution plots.

The accuracy of the SQA-Ve was assessed by diluting equine semen and analyzing the resulting sperm concentrations. Raw stallion semen was gradually diluted with commercial extender. Dilutions provided varying motile and total sperm concentrations. Semen samples were tested using the SQA-Ve and the results were plotted. Linear trend lines were established for Concentration and MSC vs. expected values.

Analytical Specificity:

- To achieve analytical specificity a specific wave length of light which is maximally absorbed by sperm cells and minimally absorbed by other cells and seminal plasma is used.
- Low noise and high electronic resolution hardware components and compensation circuits ensure analytical specificity optimization.

Limitations of method:

Samples were assessed in duplicate on automated SQA-Ve systems and manually using a microscope. Statistical counting errors and intra-operator variability (subjectivity) may have affected the results of the study.

Table 4: Correlation to Manual Method

Semen Parameters	Correlation coefficients
Sperm Concentration, M/ml	0.996
Motility, %	0.956
Progressive Motility, %	0.892
Morphology, %	0.744

Fig. 1. Method comparison: Regression plot of SQA-Ve Sperm Concentration in Raw equine semen vs. manual results

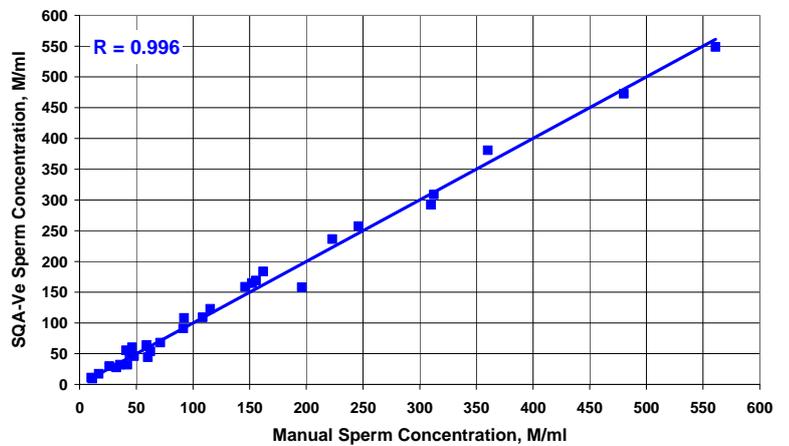
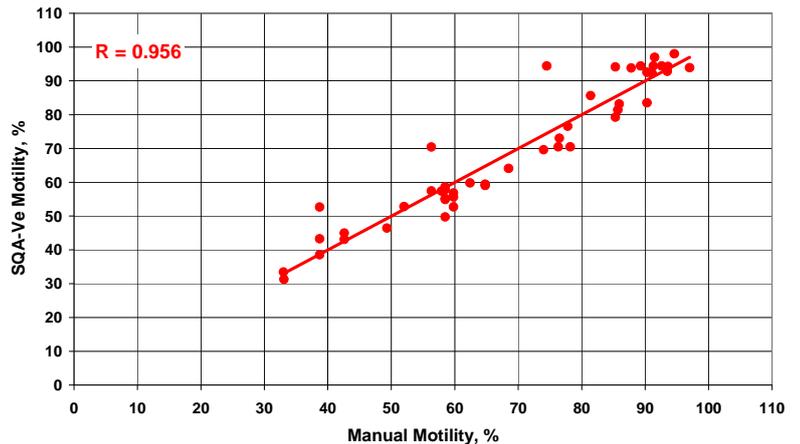


Fig. 2. Method comparison: Regression plot of SQA-Ve Motility in Raw equine semen vs. manual results



Performance parameters:

- Sensitivity and specificity were calculated using ROC analysis. Cutoffs normally used for sperm concentration, motility and morphology were used for the calculation of sensitivity, specificity, false positive and false negative parameters (Table 2).
- Precision of the SQA-Ve was estimated by calculation of the intra-device and inter-device coefficients of variation (CV) of duplicate measurements (Table 3). CV is calculated according to the formula:

$$CV = SD / MEAN \times 100$$
 The lower CV, the higher precision of the method.
- Correlation to manual method was established by calculating correlation coefficients (Table 4, Fig. 1-3).
- The accuracy of the SQA-Ve was determined by the regression coefficients of the dilution trendline (Fig. 4).

Conclusions:

- The SQA-Ve demonstrated high levels of sensitivity, specificity and correlation to the manual method.
- The SQA-Ve is precise and accurate with low coefficients of variation for all semen parameters assessed (<10%).
- The SQA-Ve can be used for semen quality assessment, dose preparation and to QC frozen equine semen.

Fig. 3. Method comparison: Regression plot of SQA-Ve Morphology in Raw equine semen vs. manual results

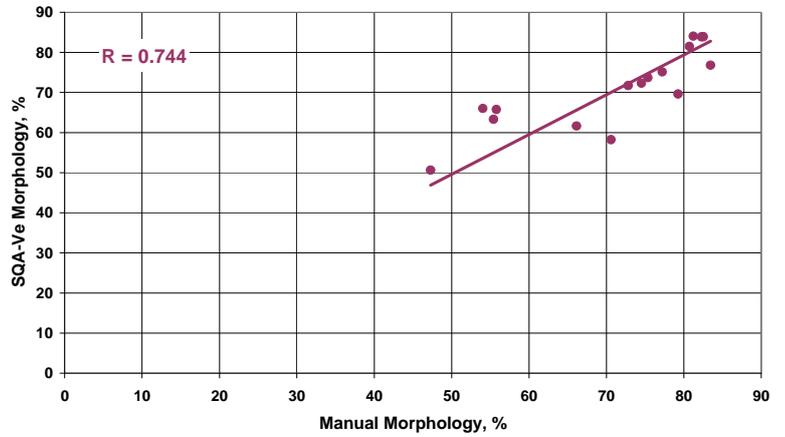
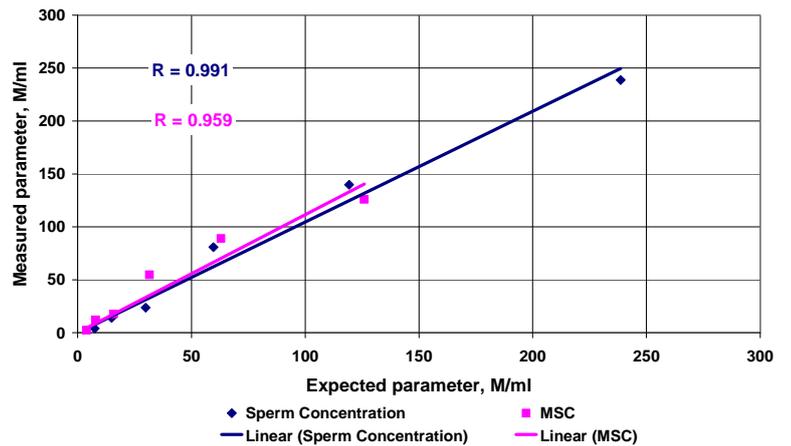


Fig. 4. Regression plot of SQA-Ve Conc. & MSC in Extended equine semen vs. expected values





E-Sperm™

User Guide

Catalog # 7651

Version 2.00

May 2009



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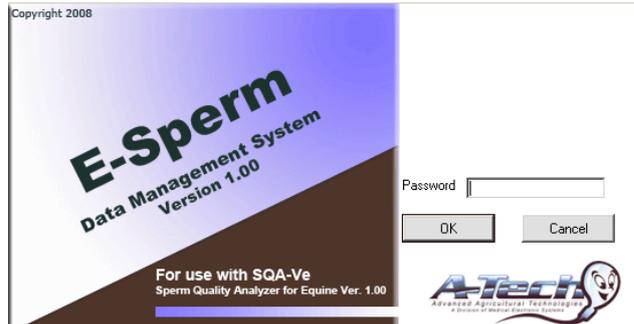
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Section 1: Overview

E-Sperm is a data management software package that works together with the SQA-Ve to provide the following features and benefits.

- Automated dosing feature – From RAW to , COOLED or FROZEN dosing in seconds.
- Stallion data such as test results, graphs, pictures, etc. can be stored, viewed and printed.
- Information is secure – access to E-Sperm requires a password.



The E-Sperm package includes:

- E-Sperm User Guide
- Video capture device
- Installation CD
- Security Key

System Requirements:

- SQA-Ve with RS232 communication cable and power cable
- PC requirements:

Hardware requirements:

- 1Ghz or higher CPU
- 256 MB RAM
- AGP Video Display Card with at least 16 MB of RAM memory
- CD-ROM compatible drive
- RS232 communication port (serial)
- Two available USB ports

Software requirements:

- Compatible operation system:
- Windows XP and VISTA
- EXCEL (for exporting data)
- At least 20 GB of free hard disk space recommended

NOTE: It is recommended to use the manufacturer's default settings.

Section 2: Software / Hardware Installation

E-Sperm Installation

1. Close any open programs before beginning the installation process.
2. Insert the E-Sperm CD into the PC's CD-ROM. The installation process will begin automatically.
3. The screen will display: Initializing Wise Installation Wizard.
4. Click NEXT when the "Welcome" screen is displayed.
5. Click NEXT when the "Choose Destination Location" screen is displayed to accept the E-Sperm default folder or click "Browse" to select another folder.
6. Click NEXT when "Select Program Manager Group" is displayed. If a messages "Digital Signature Not Found" is displayed, click YES.
7. Installation complete: Click OK to restart the PC.

Security Key Installation

Warning: E-Sperm will not work without the Security Key connected to the PC.

- Plug the E-Sperm security key into a free USB port on the computer and it will be automatically installed.



SQA-Ve Connection to the PC

- Connect one end of the RS232 communication cable to the PC.
- Connect the other end of the RS232 communication cable to the SQA-Ve.

Section 3: System Navigation Overview

Main Menu: six navigation buttons allow easy access to the E-Sperm features.



- Activate E-Sperm features by clicking on one of six Main Menu navigation buttons which are always displayed in the left margin of the screen.
- When a Main Menu button is selected, sub-menu buttons appear across the top of the E-Sperm screen displaying further options and features.
- Several icons appear in the header of the test result grids. These icons indicate the following:



- Test results out of range
- Semen picture attached to a record
- Semen video attached to a record
- Graph test results (must have two test results minimum for graphing)
- Picture of the stallion is attached to a record



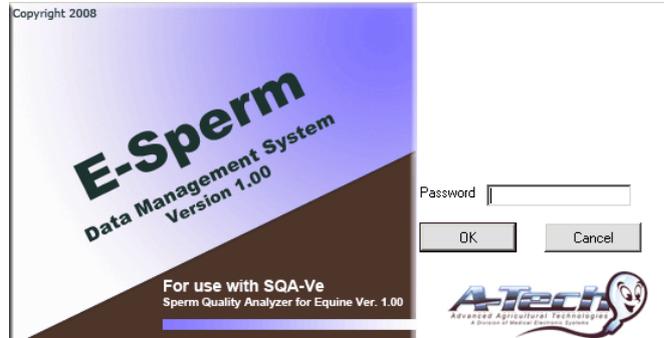
Export: Click this icon to export the test records to Excel.

- ! **Dosing Error:** Indicates one of the following errors:
 - The set-up values have been entered incorrectly
 - The semen sample is of low quality



Section 4: Start-up

Click on the E-Sperm icon located on the PC desktop to enter the system. Enter the **temporary password: fertility** and then click OK.

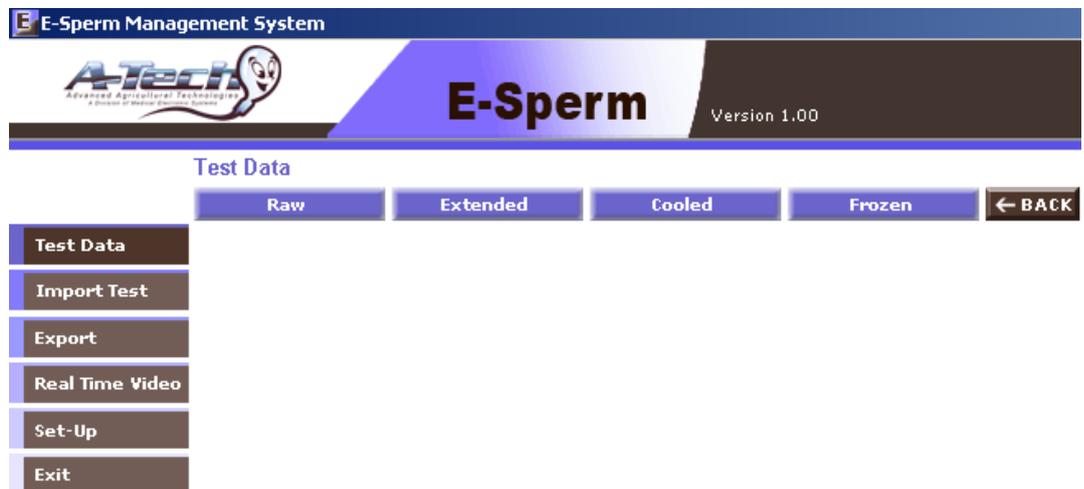


WARNING:
Please remember the new password or the system cannot be re-entered.

The E-Sperm Main Menu will automatically appear. Enter and confirm a new password using Set-Up/Password path:

Test Data

Section 5: Test Data



Click: TEST DATA and the screen above will be displayed. Clicking on one of the tabs (Raw, Extended, Cooled or Frozen) will display an interactive TABLE containing test, dosing, semen clips, horse pictures, etc. From these TABLES, REPORTS can be run, dosing can be performed and a variety of features will be displayed.

Test Data

Click on the desired button to view TABLES like the ones displayed below:

[Raw](#)
[Extended](#)
[Cooled](#)
[Frozen](#)
[← BACK](#)

Select: **RAW/EXTENDED/COOLED or FROZEN** and the following tables will be displayed:

Raw

Test Data > Raw > Without Dosing

[Capture Image](#)
[Export](#)
[Report](#)
[← BACK](#)

Number of Records: 22

[Sort](#)
[Hide](#)
[View All](#)

Date ▾	Time ▾	Stallion ID/ Studbook #	Stallion Name	Sample #	Semen Volume [ml]	Sperm Conc. [M/ml]	Motility [%]	Prog. Motility [%]	Morph. [%]	MSC [M/ml]	PMSC [M/ml]
4/27/2008	22:54	12	Tulip	57	90.0	114.6	65.0	58.0	70.4	74.6	66.6
4/27/2008	22:49	13	Black	56	35.0	234.3	77.0	55.0	74.0	180.4	128.9
4/27/2008	22:44	14	Champion	55	41.0	394.6	66.0	47.0	69.0	260.4	185.5

When selecting the RAW data, the table can be viewed with or without dosing data:

- Without dosing
- Extended dosing
- Frozen dosing

Test Data > Extended

[Capture Image](#)
[Export](#)
[Report](#)
[← BACK](#)

Number of Records: 21

[Sort](#)
[Hide](#)
[View All](#)

Stallion Name	Sample #	Prog. Motility [%]	MSC [M/ml]	PMSC [M/ml]	Velocity [mic/sec]	# Sperm [Bil]	# Motile Sperm [Bil]	# Prog. Motile Sperm [Bil]	< >			Unit #
Black	61	36.1	39.9	18.5	66	0.77	0.60	0.28				619
Champion	60	46.0	15.6	11.5	77	1.00	0.62	0.46				619
Comanche	49	40.3	28.1	18.3	71	0.91	0.56	0.37				619
White	48	46.2	22.4	16.2	77	1.25	0.78	0.57				619
Trigger	33	44.8	41.3	25.0	76	1.11	0.83	0.50				619

Extended

Test Data > Cooled

[Capture Image](#)
[Export](#)
[Report](#)
[← BACK](#)

Number of Records: 37

[Sort](#)
[Hide](#)
[View All](#)

Date ▾	Time ▾	Stallion ID/ Studbook #	Stallion Name	Sample #	Prog. Motility [%]	MSC [M/ml]	PMSC [M/ml]	Velocity [mic/sec]	# Sperm [Bil]	# Motile Sperm [Bil]	# Prog. Motile Sperm [Bil]
4/28/2008	03:34	8	Comanche	69	48.6	35.3	32.4	61	1.00	0.53	0.49
4/28/2008	03:29	25	Abaccus	68	32.7	43.3	16.8	86	0.88	0.74	0.29
4/28/2008	03:24	26	Bambi	67	67.4	64.1	56.2	89	1.67	1.28	1.12
4/28/2008	03:19	27	Lass	66	31.4	39.8	16.6	82	1.85	1.39	0.58

Cooled

Test Data > Frozen

[Capture Image](#)
[Export](#)
[Report](#)
[← BACK](#)

Number of Records: 20

[Sort](#)
[Hide](#)
[View All](#)

Date ▾	Time ▾	Stallion ID/ Studbook #	Stallion Name	Straw Date	Motility [%]	Prog. Motility [%]	MSC [M/ml]	PMSC [M/ml]	Velocity [mic/sec]	# Motile Sperm [M]	Pro Mot Spe [M]
4/27/2008	20:49	28	Quark	4/25/2008	51.9	45.5	267.8	234.7	109	535.6	469
4/27/2008	20:44	29	Magnum	4/25/2008	57.9	50.8	254.7	223.4	121	509.4	446
4/27/2008	20:29	9	Jack	4/25/2008	50.1	33.1	288.8	190.8	79	577.6	381
4/27/2008	20:24	48	Onix	4/25/2008	34.9	27.7	68.3	54.4	66	136.6	108

Frozen

EACH table in E-Sperm has standard buttons:



These buttons are located at the top, right corner or at the bottom of each table. Use them to customize the VIEW of the report.

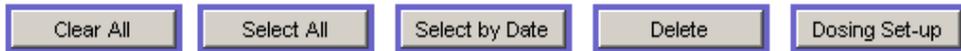


Sort is activated so that the report data can be sorted by clicking on the header columns.

CLICK: Hide and then click on the header of the column and it will disappear. Multiple columns can be hidden as long as the Hide button is activated.

CLICK: View All to see all of the columns once again.

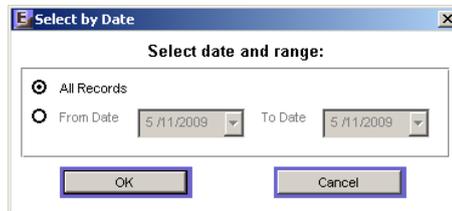
These buttons are located at the bottom of the table. Use the first four to select and manage the data in the report:



Click: Clear All to de-select the horse files that were previously selected.

Click: Select All to select all the horse files in the table.

Click: Select by Date and the pop up screen below will be displayed. Select All Records or enter the desired date range. Select OK or Cancel.



Single records can be selected by clicking in the record selection column. A range of records can be selected by **CLICKING** and **DRAWING** the mouse.

	Date	Time	Stallion ID/ Studbook #	Stallion Name	Sample #	Semen Volume [ml]	Sperm Conc. [M/ml]	Motility [%]	Prog. Motility [%]	Morph. [%]	MSC [M/ml]	PMSC [M/ml]
←	4/27/2008	21:29	2	Mr. Ed	25	70.0	154.9	76.0	60.0	75.0	117.7	92.9
	4/27/2008	22:29	7	Trigger	32	65.0	150.8	80.0	74.0	64.0	120.6	111.6
	4/27/2008	22:34	8	Comanche	46	25.0	289.1	84.5	74.0	80.2	244.3	213.9
	4/27/2008	22:59	11	Horn	58	150.0	121.0	70.5	52.0	62.0	85.3	62.9
	4/27/2008	22:54	12	Tulip	57	90.0	114.8	65.0	58.0	70.4	74.6	66.6
	4/27/2008	22:49	13	Black	56	35.0	234.3	77.0	55.0	74.0	180.4	128.9
▶	4/27/2008	22:44	14	Champion	55	41.0	394.6	66.0	47.0	69.0	260.4	185.5
	4/27/2008	22:39	16	White	50	35.0	303.7	69.0	50.0	61.0	209.6	151.9
	4/27/2008	22:24	17	Star	42	50.0	155.6	61.0	46.1	59.0	94.9	71.7

Click: Delete to remove the selected records from the table.



Dosing Set-up will be addressed in a later section.

Report

Capture Image

Export

Report

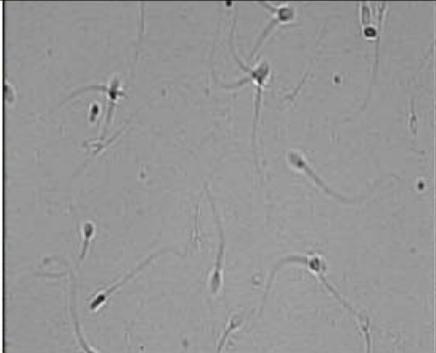
← BACK

After selecting either a series of records or one record, a report can be viewed, printed and/or exported to another location on the computer.

To run a **Stallion Semen Analysis Report**:

- Select the desired record by clicking in the record selection column.
- Click the REPORT button and the Stallion Report below will be displayed (the report will display the stallion picture and semen if they are attached to the record):

The Stallion name, picture and comments can be added to the report by going to: **Set-Up/Data Settings/Stallion Settings** (please refer to the Set-Up section of this User Guide)

STALLION SEMEN ANALYSIS REPORT			
Testing Facility			
Facility Name	Superior Stallions Stud		
Address	112454 Equine Drive	City	Cheyenne
State / Province	Wyoming	ZIP / Country Code	82001
Phone	+ 001 877-9090	Fax	+ 001 877-9091
E-Mail	mr_ed@superiorstud.com	Website	www.superiorstud.com
Stallion Information			
Name	Mr. Ed	ID/ Studbook #	2
Sample Processing			
Date	5/2/2008	Time	11:55
Sample #	21	Semen Volume [ml]	95.0
		Sample Type	Raw
TEST RESULTS			
Sperm Conc. [M/ml]	150.5	MSC [M/ml]	98.9
Motility [%]	65.5	PMSC [M/ml]	95.7
Prog. Motility [%]	63.6	Velocity [mic/sec]	89
Morph. [%]	69.4		
Totals per Semen Volume / Other Parameters			
# Sperm [Bil]	14.30	# Prog. Motile Sperm [Bil]	9.09
# Motile Sperm [Bil]	9.37	TNB	6499.21
Dosing Set-up			
Dosing Method	Prog. Motile Sperm	Maximum Dose Vol. [ml]	70.0
Minimum # Cells/Dose [M]	700		
Dosing Results			
Extender Volume [ml]	741	Dose Volume [ml]	69.6
# Doses	12	Total Volume [ml]	836
		# Sperm/Dose [M]	758
Comments			
Beautiful TV horse. Was on TV series: Mr. Ed - talking horse. Semen per straw \$675			
			

To run an SQA-Ve Test Report (with more than one test):

- Select the desired records by either clicking in the record selection column of the TABLE /setting a date range or selecting ALL.
- Click the REPORT button and the Report below will be displayed

SQA-Ve Test Report COOLED SEMEN

From: 4/27/2008 To: 4/28/2008

This sample SQA-Ve Test Report is for COOLED SEMEN by date range. Reports for all of the types of semen can be run based on the user selection.

SAMPLE DATA						TEST RESULTS							
Date	Time	Stallion		Sample #	Semen Volume [ml]	Sperm Conc. [M/ml]	Motility [%]	Prog. Motility [%]	MSC [M/ml]	PMSC [M/ml]	Velocity [mic/sec]	Totals per Semen Volume	
		ID/ Studbook #	Name									# Motile Sperm [Bil]	# Prog. Motile Sperm [Bil]
4/28/2008	03:34	8	Comanche	69	15.0	66.6	53.0	48.6	35.3	32.4	61	0.53	0.49
4/28/2008	03:29	25	Abaccus	68	17.0	51.5	84.1	32.7	43.3	16.8	86	0.74	0.29
4/28/2008	03:24	26	Bambi	67	20.0	83.4	76.8	67.4	64.1	56.2	89	1.28	1.12
4/28/2008	03:19	27	Lass	66	35.0	52.9	75.2	31.4	39.8	16.6	82	1.39	0.58
4/28/2008	03:14	28	Quark	65	30.0	49.9	70.6	29.7	35.2	14.8	69	1.06	0.44
4/28/2008	03:09	29	Magnum	64	20.0	54.6	72.7	31.0	39.7	16.9	83	0.79	0.34
4/28/2008	03:04	7	Trigger	54	16.0		<= 30					0.14	0.13
4/28/2008	02:59	46	Tex	53	20.0	49.9	42.9	31.6	21.4	15.8	55	0.43	0.32
4/28/2008	02:54	9	Jack	52	15.0	53.2	52.3	34.8	27.8	18.5	63	0.42	0.28
4/28/2008	02:49	48	Onix	51	20.0	73.8	73.3	61.0	54.1	45.0	79	1.08	0.90
4/28/2008	02:44	30	Mac	45	20.0		<= 30					0.06	0.05
4/28/2008	02:39	24	Bar Mount	44	22.0		<= 30					0.04	0.04
4/28/2008	02:34	42	Eagle Eye	43	15.0	55.9	40.9	23.5	22.9	13.1	53	0.34	0.20
4/28/2008	02:29	43	Oasis	28	25.0	50.9	36.7	24.1	18.7	12.3	50	0.47	0.31
4/28/2008	02:24	44	King	34	20.0	50.8	75.3	30.7	38.3	15.6	75	0.77	0.31
4/28/2008	02:19	45	Fabio	28	30.0	52.7	50.5	34.1	26.6	18.0	61	0.80	0.54
4/28/2008	02:09	39	Eddy	27	18.0	59.7	53.5	25.5	31.9	15.2	64	0.57	0.27
4/28/2008	02:04	40	Dancer	26	15.0	63.3	68.3	41.6	43.2	26.3	79	0.65	0.39
4/28/2008	01:59	41	Ted	22	17.0	55.1	50.3	25.8	27.7	14.2	61	0.47	0.24

This document was printed on 5/11/2009 17:08 from the E-Sperm system ver. 1.00 by A-Tech



- Click the Printer icon to print the report
- Click the Export button to save the data in Excel format (Excel software required)
- Use the ZOOM to minimize/maximize the view
- Use the page bar at the bottom of the report to move between pages
- Click the "X" in the upper right hand corner to exit

Capture Image

Capture Image: Click this button to activate the “real time” video:



NOTE: If no record is selected the video or picture will be attached to the latest record imported into E-Sperm.

To save a video clip or picture and attach it to a record:

- Import the test record from the SQA-Ve to E-Sperm (see IMPORT).
- Go to: **TEST DATA** and select the appropriate table containing the record (or this test will automatically be displayed after running a test and importing on-line into the E-Sperm)
- Insert a prepared slide into the visualization system of the SQA-Ve.
- Select the desired record in the E-Sperm table to attach a video/picture.
- Click: **CAPTURE IMAGE** to activate the video screen in E-Sperm
- Click: **CAPTURE PICTURE** to attach a picture to the selected record
- Click: **CAPTURE VIDEO** to attach a video clip to the selected record; Click Stop Capturing to end the video capture process.
- A camera/video icon will now appear with this record in the table

To **delete** a picture or video, click on the icon and click “DELETE” in the lower left hand corner of the viewing screen.

Export

Export: Click to export selected records to an external file in Excel format (This option is also available from the EXPORT navigation menu.)

Dosing Set-up

The Dosing Set-up screens can be activated from any TABLE. Please see how to use the Dosing–Set-up feature in the Import Test section of this user guide.

Import Test

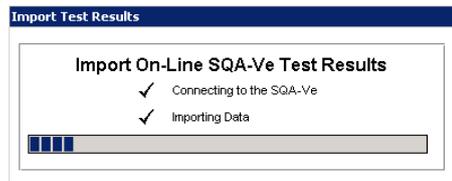
Section 6: Import Test (from the SQA-Ve)

AFTER each semen sample is tested in the **SQA-Ve**, the screen below is displayed in the SQA-Ve:

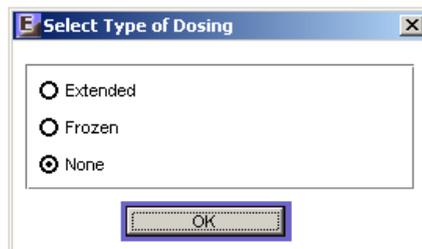
TO TRANSFER TEST RESULTS TO E-SPERM
PRESS: "IMPORT TEST" BUTTON
IN E-SPERM

PRESS ENTER
TO RETURN TO MAIN MENU

Click the **Import Test** navigation button to bring the test results into E-Sperm:



- When the test is "received" by E-Sperm the screen below will be displayed.
- Select Type of Dosing: EXTENDED, FROZEN (or not to perform dosing).



- If NO is selected, the test results can be found in the RAW table.

Test Data > Raw > Without Dosing

Capture Image Export Report ← BACK

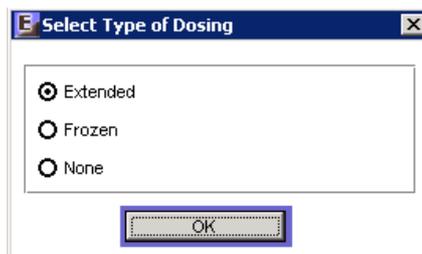
Number of Records: 22

Sort

	Date ▾	Time ▾	Stallion ID/ Studbook #	Stallion Name	Sample #	Semen Volume [ml]	Sperm Conc. [M/ml]	Motility [%]	Prog. Motility [%]	Morph. [%]
▶	4/27/2008	22:54	12	Tulip	57	90.0	114.8	65.0	58.0	70.4
	4/27/2008	22:49	13	Black	56	35.0	234.3	77.0	55.0	74.0
	4/27/2008	22:44	14	Champion	55	41.0	394.6	66.0	47.0	69.0
	4/27/2008	22:39	16	White	50	35.0	303.7	69.0	50.0	61.0

Select Type of Dosing

- Select **EXTENDED** to display the dosing screen seen below...



EXTENDED Dosing

The Stallion name and other details can be set-up by going to:

Set-Up/Data Settings/Stallion Settings (please refer to the Set-Up section of this User Guide)

Extended Dosing Set-up

DOSE PREPARATION: EXTENDED

Stallion ID/ Studbook # Stallion Name

Date

Raw Semen Volume [ml] Sperm Conc. [M/ml]

Motility [%] Prog. Motility [%]

DOSING SETUP

Dosing Method Maximum Dose Vol. [ml] Set Optional Dilution Ratio

Minimum

Minimum # Cells/Dose [M] Maximum

10

DOSING RESULTS

Extender Volume [ml]	Dose Volume [ml]	# Doses
<input type="text"/>	<input type="text"/>	<input type="text"/>
Total Volume [ml]	# Sperm/Dose [M]	Final Conc. [M/ml]
<input type="text"/>	<input type="text"/>	<input type="text"/>

The Dose Preparation EXTENDED screen above automatically displays the stallion ID, Name, test date and the semen parameters from the SQA-Ve.

A DOSING MISMATCH POOR QUALITY SAMPLE Error message will appear when:

- Dilution Restriction: This restriction may be set too low or too high.
- If sample quality is too low and cannot be dosed as instructed.
- If there is a non-compatible dosing setting this message will appear.

- ENTER or SET the dosing parameters for EXTENDED dosing of a RAW sample:
 - Dosing method: Total Sperm, Motile Sperm or Progressively Motile Sperm per AI dose.
 - Maximum Dose Volume: The upper limit of the dose volume in ml.
 - Minimum # Sperm Cells / Dose: The lower limit of (Total, Motile or Prog. Motile) sperm cells required per AI dose.
 - Optional Dilution Ratio: It is recommended by some practitioners to dilute a sample at least 3 times and not more than 10 times. This is the default ratio if the box is checked, although any values may be entered (or if the box is not checked, no ratio will be considered).

Click: CALCULATE and the dosing parameters will be displayed in the DOSING RESULTS section of the table:

DOSING RESULTS		
Extender Volume [ml]	Dose Volume [ml]	# Doses
1350	60.0	25
Total Volume [ml]	# Sperm/Dose [M]	Final Conc. [M/ml]
1500	726	12.1

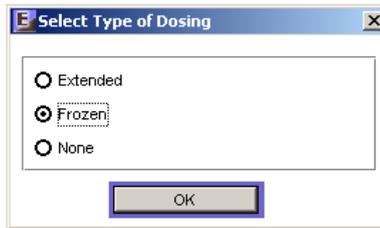
- Extender Volume (ml): The volume to be added to the raw semen.
- Total Volume (ml): The volume of the semen plus the extender.

Select Type of Dosing

- Dose Volume (ml): The volume of the AI dose in ml.
- # Doses: The total number of doses possible from the extended sample.
- # Sperm / Dose: The #sperm (Total, Motile or Prog. Motile) per dose after extending the raw semen.
- Final Conc. (M/ml): The concentration per ml of the dosed semen.

Click Save and Close to accept the results (they will now appear in the RAW > Extended Dosing and the EXTENDED Tables and reports.

Click Cancel and the dosing data will NOT be saved.



FROZEN Dosing

After importing a test, select FROZEN to view the DOSE PREPARATION screen:

The Stallion name and other details can be set-up by going to: **Set-Up/Data Settings/Stallion Settings** (please refer to the Set-Up section of this User Guide)

Frozen Dosing Set-up			
DOSE PREPARATION: FROZEN			
Stallion ID/ Studbook #	35	Stallion Name	Cactus
Date	4/27/2008 13:35		
Raw Semen Volume [ml]	110.0	Sperm Conc. [M/ml]	178.6
Motility [%]	76.0	Prog. Motility [%]	72.0
DOSING SETUP			
Dosing Method	Total Sperm	Dose Volume [ml]	2.500
# Sperm/Dose [M]	900		
Calculate			
DOSING RESULTS			
Resusp. pellet to equal [ml]	# Doses	Dose Volume [ml]	
Save and Close		Cancel	

The stallion ID, Name, test date and the semen parameters are automatically sent to this screen from the SQA-Ve.

- ENTER or SET the dosing parameters for FROZEN dosing of a RAW sample:
 - Dosing method: Select from the drop-down menu Total Sperm, Motile Sperm or Progressively Motile Sperm per AI dose.
 - Dose Volume (ml): Enter the volume of the AI dose in ml.
 - # Sperm Cells / Dose: Enter the desired limit of (Total, Motile or Prog. Motile) sperm cells required per AI dose.

A DOSING MISMATCH POOR QUALITY SAMPLE Error message will appear when:

- If sample quality is too low and cannot be dosed as instructed.
- If there is a non-compatible dosing setting this message will appear.

Click: **CALCULATE** and the dosing parameters will be displayed in the **DOSING RESULTS** section of the table:

DOSING RESULTS		
Resusp. pellet to equal [ml]	# Doses	Dose Volume [ml]
52	20	2.500
<input type="button" value="Save and Close"/>	<input type="button" value="Cancel"/>	

- Re-suspend pellet to equal (ml): This is the total volume of the bulk semen preparation after re-suspending the raw semen pellet with freezing extender.
- # Doses: The total number of doses that can be generated from the extended sample.
- Dose Volume (ml): The volume of the entire dose in ml.

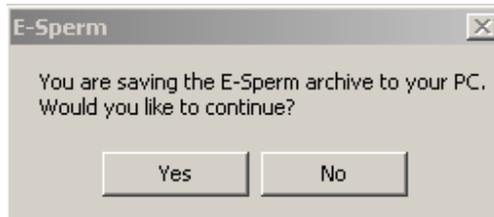
Click **Save and Close** to accept the results (they will now appear in the RAW > Frozen Dosing and the FROZEN Tables and reports.

Click **Cancel** and the dosing data will NOT be saved.

Export

Section 7: Export
Export

- Click on the EXPORT button to send data from E-Sperm to an external file (Excel required).
- Chose RAW, EXTENDED, COOLED or FROZEN data for export by clicking on the appropriate button.
- The screen below will be displayed: Click YES to continue



- An EXCEL file with all the exported data will be available at the designated location. A sample of an EXTENDED SEMEN exported file is displayed below:

SQA-Ve Test Report														
EXTENDED SEMEN														
SAMPLE DATA						TEST RESULTS								
Date	Time	Stallion		Sample #	Semen Volume [ml]	Sperm Conc. [M/ml]	Motility [%]	Prog. Motility [%]	MSC [M/ml]	PMSC [M/ml]	Velocity [mic/sec]	Totals per Semen Volume		
		ID/ Studbook #	Name									# Sperm [Bil]	# Motile Sperm [Bil]	# Prog. Motile Sperm [Bil]
4/28/2008	00:49	13	Black	61	15.0	51.2	77.9	36.1	39.9	18.5	66	0.77	0.60	0.28
4/28/2008	00:44	14	Champion	60	40.0	25.0	62.2	46.0	15.6	11.5	77	1.00	0.62	0.46
4/28/2008	00:39	8	Comanche	49	20.0	45.3	62.1	40.3	28.1	18.3	71	0.91	0.56	0.37
4/28/2008	00:34	16	White	48	35.0	35.0	64.0	46.2	22.4	16.2	77	1.25	0.78	0.57
4/28/2008	00:24	7	Trigger	33	20.0	55.7	74.1	44.8	41.3	25.0	76	1.11	0.83	0.50
4/28/2008	00:14	49	Patriot	28	35.0	52.5	73.6	57.2	38.6	30.0	91	1.84	1.35	1.05
4/28/2008	00:09	2	Mr. Ed	27	20.0	66.8	81.6	45.5	54.5	30.4	77	1.34	1.09	0.61

Real Time Video

Section 8: Real Time Video

Real Time Video

- Freeze
- Grid
- Copy
- Settings
- Save Video
- Save Picture
- Full Screen

Click the **REAL TIME VIDEO** button to View "live" samples from the SQA-Ve visualization system. The following features are available:

- **Freeze** – To freeze the screen. Click the Real Time button to un-freeze.
- **Grid** – Add a grid to the screen to make cell counting easier.
- **Copy** – Click this button to copy pictures and then paste in an external file.
- **Settings** – Video settings can be selected by the user.
- **Save Video** – Video clips can be saved in an .avi format.
- **Save Picture** – Pictures can be saved in a .bmp format.
- **Full Screen** – Maximize the screen and then minimized (Click the **Close** button).

Video Settings

Click: **Video Settings** to set the video default settings. It is not recommended to change these settings without Technical Support (except for grid width and color)

Real Time Video > Video Settings

Video Settings ← BACK

Grid line width	25
Grid line color	Color
Video compression	DivX MPEG-4 Video Codec Properties
Video device	No Device
Video setting	video input video size video subtype analog video standard

Apply Cancel

Section 9: Set-Up

Set-Up

Click the **Set-Up** button and the following options will be displayed:

- Data Settings
- System Settings
- SQA-Ve
- ← BACK

Select **Data Settings** to view the three options below:

Data Settings

Set-Up > Data Settings

- Stallion Settings
- Normal Ranges
- Testing Facility

Click **STALLION SETTINGS** to enter or change Stallion information.

Stallion Settings

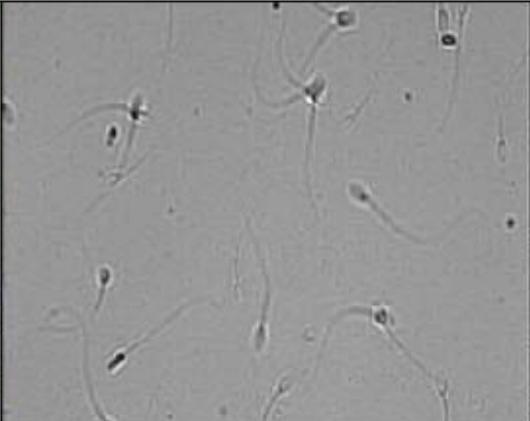
ID /Studbook #	Name	Stallion Picture
1	Flicka	iStock_Horse Picture_Large3_...
2	Mr. Ed	iStock_000002310267Large3.J...
3	Seabiscuit	iStock_000004770581Medium[...
4	Man of War	iStock_000005323658Medium[...
5	Black Beauty	iStock_000006969566Medium[...

- To add a new stallion to the database, or to edit an existing file, move the cursor to the appropriate line of the table and click to select the record as shown above.
- Enter **ID/Studbook# and Name** directly into the cell of the table.
- **Stallion Picture:** Click on the box located in the Stallion Picture cell. This will open a file location box – select the path to the desired picture, click the **Open** button to attach the picture. ONE picture per stallion record!

Stallion Settings



Normal Ranges

Comments	
Beautiful TVhorse. Was on TV series: Mr. Ed - talking horse. Semen per straw \$675	
	

- **Comments:** To add comments that will appear in the Stallion Semen Analysis Report, select a record and click on the column with the report icon. Space is limited to approximately 100 characters.

Click **NORMAL RANGES** to set the acceptable/allowable range for normal semen test results.

Raw Semen - Parameters	Normal Range		Cooled Semen - Parameters	Normal Range	
Sperm Conc. [M/ml]	50.0 - 600.0	←	Sperm Conc. [M/ml]		←
Motility [%]	> 50.0	←	Motility [%]		←
Prog. Motility [%]		←	Prog. Motility [%]		←
Morph. [%]	> 60.0	←	MSC [M/ml]		←
MSC [M/ml]		←	PMSC [M/ml]		←
PMSC [M/ml]		←	Velocity [mic/sec]		←
Velocity [mic/sec]		←	# Sperm [Bil]		←
# Sperm [Bil]	> 4.00	←	# Motile Sperm [Bil]		←
# Motile Sperm [Bil]		←	# Prog. Motile Sperm [Bil]		←
# Prog. Motile Sperm [Bil]		←			

Extended Semen - Parameters	Normal Range		Frozen Semen - Parameters	Normal Range	
Sperm Conc. [M/ml]		←	Motility [%]		←
Motility [%]		←	Prog. Motility [%]		←
Prog. Motility [%]		←	MSC [M/ml]		←
MSC [M/ml]		←	PMSC [M/ml]		←
PMSC [M/ml]		←	Velocity [mic/sec]		←
Velocity [mic/sec]		←	# Motile Sperm [M]		←
# Sperm [Bil]		←	# Prog. Motile Sperm [M]		←
# Motile Sperm [Bil]		←			
# Prog. Motile Sperm [Bil]		←			

- To set the ranges, click on the ARROWS located in the right column to select the parameter.
- The screen below will be displayed. Enter the appropriate test range.
- Click: Apply to save. Cancel to exit.

Normal Range Settings

Field	Symbol	Min	Max
Sperm Conc. [M/ml]	BETWEEN	50.0	600.0

Testing Facility

Click **TESTING FACILITY** to set-up the location of the clinic, business that will appear on the Stallion Semen Analysis Report. The screen below will appear:

Set-Up > Data Settings > Testing Facility

Testing Facility ← BACK

Testing Facility Superior Stallions Stud	City Cheyenne
Address 112454 Equine Drive	
State / Province Wyoming	Zip 82001
Phone Number + 001 877-9090	Fax Number + 001 877-9091
E-Mail mr_ed@superiorstud.com	Website www.superiorstud.com

Apply Cancel

Enter the appropriate information and click APPLY to save, CANCEL to exit.

System Settings

Set-Up > System Settings

Language

Password

Port

Calculation

Auto Export

Click: Set-up > System Settings in Set-Up to display the following options: Language, Stallion Settings, I-Button, Password and Port.

Language

Language: Click this button to customize the language used in the E-Sperm Reports.

- Choose "Other" from the Language drop-down menu.
- Edit the table by over-writing the text in the "Other" column as desired.
- Click APPLY to save, cancel to exit.

System	Other
# Doses - Extended	Количество доз
# Doses - Frozen	Количество доз
# Sperm / Dose [M] - Extended	Кол-во сперматозоидов в дозе [M]
# Sperm / Dose [M] - Frozen	Кол-во сперматозоидов в дозе [M]
# Sperm / Dose [M] - Setup	Кол-во сперматозоидов в дозе [M]
Conc. Target [M/ml]	Требуемая концентрация [M/ml]
COOLED SEMEN	Охлаждённая сперма
Date	Дата
Date - Header	Дата
DOSE PREPARATION: EXTENDED	Дозирование: Разбавленные дозы
DOSE PREPARATION: FROZEN	Дозирование: Замороженные дозы
Dose Volume [ml] - Extended	Объём дозы [ml]
Dose Volume [ml] - Frozen	Объём дозы [ml]
Dose Volume [ml] - Setup	Объём дозы [ml]
Dosing Error - Extended	Ошибка дозирования
Dosing Error - Frozen	Ошибка дозирования

Language
Other
English
Other

Apply Cancel

Password

REMEMBER YOUR PASSWORD!

NOTE: Forget your password? Contact your distributor for help!

Password: Click to enter and confirm a new password. Click APPLY to save, cancel to exit.

The password is immediately re-set. E-Sperm can only be entered with the new password.

Port

Port: Click this button to set the communication port for the PC.

Calculation

Click: **Calculation** and the screen below will be displayed. This screen is available to customers to add ONE custom parameter. It requires communication with the distributor for programming the "string" that needs to be entered.

The parameter will appear on the tables and reports checked at the bottom of the screen. Please contact your local distributor for assistance with this feature.

Set-Up > System Settings > Calculation (Message: Contact distributor for string calculation)

Auto Export

This feature requires assistance from the distributor.

SQA-Ve

Set-Up > SQA-Ve

I-Button **Self-Test Data**

Click: Set-up > SQA-Ve to display the following options: I-Button, Self-Test Data.

I-Button

I-Button

Click: **I-Button** to add tests to the SQA-Ve.

NOTE: Warnings:

- Communication error: SQA-Ve not connected to PC
- I-Button not activated or recognized by the system: try a new or re-load the old I-Button
- Empty I-Button inserted: Use a new I-Button

Follow the on-screen instructions and then press continue. The number of tests added and the number remaining will be displayed.

Self-Test Data

Click SELF-TEST DATA and follow the instructions below to view and print data for support when there are system failures.

Set-Up > SQA-Ve > Self-Test Data

Self-Test Data **← BACK**

Open Self-Test Data

- Connect the SQA-Ve to the PC
- From the SQA-Ve, select: SERVICE MENU / SERVICE DATA
- Press CONTINUE below

Cancel

Continue >>

Exit

Section 10: Exit

Exit the E-Sperm system by clicking the **EXIT** button. Confirm with a click.

