Artificial Insemination Centres' Health Management Program

(Programme de gestion sanitaire
des centres d'insémination artificielle) - PGSCIA

2025-2026

Registration Conditions

CDPQ
Centre de développement
du porc du Québec inc.

Legal deposit - 2025
Bibliothèque et Archives nationales du Québec
Library and Archives Canada
ISBN 978-2-925175-28-5
ISSN 2291-3572

Table of Content

Introduction

The *Programme de gestion sanitaire des centres d'insémination artificielle* (PGSCIA) is a health management program for artificial insemination centres, open to all AI centres wishing to sell boar semen to Quebec farmers and hog producers.

PGSCIA is an adjunct to the program administered by the Canadian Food Inspection Agency (CFIA).

The main objectives are to:

- Attest to the quality of each insemination centre's health management program to monitor the procedures for verifying the safety of boar semen sold to the user farms;
- Check that the AI centres meet minimum standards for facilities and equipment, hygiene, health and safety, record keeping, semen traceability and animal health control;
- Provide AI centre managers with the tools and expertise to improve centre biosecurity regarding PRRS virus, App, Mycoplasma, PED, SDCV, TGE, SVA contamination;
- Provide centre managers with tools and procedures to lower the risk of the semen spreading potentially harmful viral pathogens to the user farms;
- Certify the health status of boars purchased by the insemination centres to minimize the risk of animal health accidents; and
- Put forward and improve health status verification procedures for the insemination centres to attest to their health status regarding PRRS virus, App, Mycoplasma, PED, DCVP, TGE and SVA.

1 PGSCIA Eligibility Terms and Conditions

1.1 Registration for AIC

Fill out the PGSCIA Registration Form for AI Centres (Appendix 1) and send it to the CDPQ (see Appendix 2).

1.2 Preconditions

To qualify for admission to the PGSCIA program an AI centre:

a. Must be a registered farm business with the Bureau de renseignements agricoles (agricultural information office) of MAPAQ, in accordance with provincial regulations;

b. Must be a Canadian Food Inspection Agency approved semen production and distribution centre in accordance with the Health of Animals Act and Regulations (L.C.1990, ch. 21);

c. Must comply with the standards set out in the program regarding facilities and equipment, hygiene and health protection (biosecurity), record keeping and control of animal health;

d. Must use the services of a consultant veterinarian responsible for the development, maintenance and implementation of the health management program; and

e. Must be officially recognized by the Canadian Pork Excellence; PigTRACE, PigSAFE, PigCARE from Canadian Pork Council.

1.3 Termination of services and re-registration

Insemination centre members that no longer meet the program requirements in force on April 1, 2025, together with those centres that do not conform, can be suspended or expelled at any time.

Member centres are automatically re-registered on April 1st of each year, unless otherwise specified in writing.

Any centre wishing to abandon the program must provide prior written notice to the CDPQ.

2 Respective responsibilities of the three stakeholders

2.1 Responsibilities of the CDPQ-designated veterinarian

- Develop, enhance, adapt the program to the needs of Quebec's pork industry.
- Inspect the member AI centre's facilities once a year. The purpose of these visits is to verify that the standards for facilities, hygiene, health and safety, record keeping and control of animal health, are applied in accordance with the insemination centre's health management program.
- Authorize animal admission to the isolation (quarantine) unit and, at the client's request, authorize admission of boars to the boar unit/barn.
- Maintain regular contact with the AI centre manager, the centre's consultant veterinarian and the Canadian Food Inspection Agency veterinarian responsible for the program.

2.2 Responsibilities of insemination centre managers

- Comply with the requirements for admission to the program.
- Promptly notify the consultant veterinarian and the veterinarian responsible for PGSCIA (hereafter, the CDPQ-designated veterinarian) in the event of potentially contagious health problems.
- Authorize access to AI centre facilities by the CDPQ-designated veterinarian at all times.
- Provide the CDPQ-designated veterinarian with all health information concerning the AI centre that relates to the program.
- Allow the CDPQ-designated veterinarian to consult AI centre records related to the program.
- Implement health recommendations from the CDPQ-designated veterinarian and the consultant veterinarian without delay.
- Not distribute any semen that, insofar as they know, would present a health risk for the AI centre's clients.

2.3 Responsibilities of the insemination centre's consultant veterinarian

- Inspect centre facilities every four months (minimum three times per year). At least one of these visits will be conducted together with the CDPQ-designated veterinarian.
- During these visits, verify that the standards for facilities, hygiene, biosecurity, record keeping, and animal health control are being applied.
- Following these visits, write recommendations for the AI centre manager and the CDPQ-designated veterinarian concerning facilities, sanitation, biosecurity, record keeping and animal health control.
- In the event of potentially contagious health problems, recommend temporary suspension of the semen distribution and immediately notify the CDPQ-designated veterinarian.
- Write the necessary prescriptions for the purchase of drugs or vaccines and ensure they are used correctly.
- Prescribe the necessary laboratory tests for managing the health of the boar stud.
- Collaborate in maintaining and updating the insemination centre's health management program.

3 Biosecurity of centres

3.1 Basic biosecurity guidelines

- Identification of critical points/issues
- Development of an animal health management program for each AI centre
- Regular verification of compliance with program guidelines

3.1.1 Identification of critical points

- Location of the premises
- Management of farm personnel and equipment
- Selection of livestock suppliers
- Health status certificate for boars entering the AI centre
- Bacteriological quality of the semen
- Transport of animals:
    - From farm to isolation (quarantine) unit, from isolation (quarantine) unit to boar stud unit, from boar stud unit to slaughterhouse
- Cleaning and disinfection of the trucks
- Transportation of the semen
- Monitoring of vehicle movement around the premises
- Vermin and pest control (birds, rodents, flies, etc.)

3.1.2 Development of an animal health management program for each AI centre

Each member AI centre of PGSCIA must have a written document outlining in detail its health management program. This document must be updated annually on October 1 each year.

The CDPQ-designated veterinarian may participate in the development of the insemination centre's health management program. However, maintenance of the program and updates to it are the responsibility of AI centre managers and of their consultant veterinarian.

CDPQ can provide an example of a health management program to help orient AI centre managers.

3.1.3 Regular verification of compliance with program guidelines

Centre managers must check the application of the programs (regularly); the consultant veterinarian must do so as well (at least three times a year) and the CDPQ-designated veterinarian also (once a year).

4 Minimum standards for PGSCIA AI member centres

4.1 Isolation (quarantine) premises

- Must be located more than 1 km from swine operations areas other than artificial insemination centres (AIC);
- Ideally, the isolation (quarantine) units for AICs that are not equipped with an air filtration system at the entrance must be located at a distance of more than one kilometer from the AIC premises;
- Must be accessible to authorized farm personnel only (locked doors);
- Must be equipped with a Danish entry or a shower at the entrance and must follow the principles of unidirectional flow;
- Must be designed so as to prevent the entry of vermin, birds or other animals;
- Must be regularly inspected for flies and vermin by a professional exterminator;
- Must be operated on all-in/all-out (AI/AO) basis per unit;
- Must be sufficiently spacious, airy and comfortable to guarantee the welfare of the animals; and
- Must be cleaned and disinfected and then kept empty for at least five days between each occupation.

4.2 Boar stud premises

- Must be located at a minimum distance of 1 km from other area groups of pigs other than the AIC's isolation (quarantine) unit;
- Must be separated by a physical barrier from other unit areas of the AI centre;
- Must be accessible to authorized farm personnel only (locked doors);
- Must be equipped with a Danish entry or a shower at the entrance and must follow the principles of unidirectional movement;
- Must be designed so as to prevent entry of vermin, birds or other animals;
- Must be regularly inspected for flies and vermin by a professional exterminator; and
- Must be sufficiently spacious, airy and comfortable to guarantee the welfare of the animals.

4.3 Semen packaging laboratory

- Must be separated by a physical barrier from other unit areas of the centre;
- Must be accessible to authorized persons only;
- Must be separated from the collection area by an airlock to prevent airborne contamination; and
- Shall not permit any backward people flow from the other unit areas.

4.4 Semen storage and shipping room

- Must be separated by a physical barrier from other unit areas of the AI centre; and
- Must be accessible to authorized persons only.

4.5 Drug cabinet

- Must be designed to allow the storage of drugs and vaccines in accordance with the manufacturer's recommendations and the drug regulation requirements (e.g. PigSAFE).

5 Management of farm personnel and equipment

5.1 Farm personnel management

- Entrance doors to boar and quarantine units must be locked at all times.
- All farm personnel and visitors must change street clothes and shoes before entering the boar stud units.
- Staff and visitors must observe a 48-hour downtime period (two nights) without any direct contact with pigs before entering boar stud premises.
- International visitors who have had no contact with pigs must observe a 2 to 7 days downtime period depending of the country.
- International visitors who have been in contact with pigs must observe a 2 to 7 days downtime period depending of the country.
- All visitors must sign the visitor log book upon entering a boar stud premises.
- Visitors and farm personnel must remove all jewelry before entering the boar stud premises.

5.2 Managing Equipment and Supplies

- All equipment and supplies that come into the boar stud units and quarantine units must be new and disinfected.
- A workroom where fumigation of equipment and supplies can take place is strongly recommended.

6 Selection of batches of animals for admission to AI centres

6.1 Location of supplier farms

- Any breeding operation with no pig site (pig farm, slaughterhouse, assembly station) within 5 km meets the location standards as a boar supplier.
- Any farm with no pig production site within a 2 km radius and an exposure index1 of less than 2 could qualify.

[1] *The exposure index is an estimate of the exposure of a boar-supplying site in relation to sites with pigs in the area. Sites with an epidemiological link are not included in the estimation.*

6.2 Health status of farms supplying boars

6.2.1 Characteristics of the Maternity unit

- No clinical signs of PRRS, *Mycoplasma hyopneumoniae*, *Actinobacillus pleuropneumoniae* (App);
- Neonatal mortality (birth to weaning) is well controlled with an objective of less than 18%

Emphasis should be placed on significant increases versus historical monthly values. This indicator will be used to initiate additional follow-ups with the farm's veterinarian, when necessary.

6.2.2 Characteristics of the Nursery and Grow-to-Finish units

- Death losses (monthly mortality rate):
  - Less than 5% in nursery unit;
  - Less than 5% in finishing unit;
  - Less than 8-10% from weaning to the end of the finisher.

Emphasis should be placed on significant increases versus historical monthly values. This indicator will be used to initiate additional follow-ups with the farm's veterinarian, when necessary.

6.2.3 PRRS virus-free status (naïve or eradicated)

PRRS-negative serological results documented by regular (a) or irregular (b) serological monitoring.

a. Serological monitoring for rotational breeding (> 70 kg): minimum of 30 negative subjects per month (IDEXX ELISA-X3);

b. Serological monitoring for all-in/all-out (> 70 kg): minimum of 30 negative subjects at the end of the batch (IDEXX ELISA-X3)

6.2.4 Free status for *Mycoplasma hyopneumoniae*

Negative serological results for *Mycoplasma hyopneumoniae*, documented by regular (a) or irregular (b) serological monitoring.

a. Serological monitoring for rotational breeding (> 70 kg): minimum of 30 negative subjects per month (IDEXX ELISA or other);

b. Serological monitoring for all-in/all-out (> 70 kg): minimum of 30 negative subjects at the end of the batch (IDEXX ELISA or other)

6.2.5 Free status for *Actinobacillus pleuropneumoniae*

Negative serological results for *Actinobacillus pleuropneumoniae*, documented by regular (a) or irregular (b) serological monitoring.

a. Serological monitoring for rotational breeding (> 70 kg): minimum of 30 negative subjects every 3 months (test Multi-App);

b. Serological monitoring for all-in/all-out (> 70 kg): minimum of 30 negative subjects at the end of the batch (test Multi-App)

6.2.6 No clinical signs of other diseases under surveillance (see List of diseases under surveillance).

6.2.7 Obtaining laboratory results for the selected boars within the 30 days preceding entry into isolation (quarantine) unit.

7 List of diseases under surveillance

7.1 Surveillance program

- Animals in the source herds should display no clinical signs of:
  - Enzootic pneumonia
  - Porcine pleuropneumonia (*Actinobacillus pleuropneumoniae*)
  - *Actinobacillus suis*
  - Glässer's disease (*Glaesserella parasuis*)
  - Porcine reproductive and respiratory syndrome (PRRS)
  - Proliferative enteropathy/ Porcine proliferative enteritis
  - Porcine Circovirus Associated Diseases (PCVAD)
  - Dysentery (*Brachyspira hyodysenteria et Brachyspira hampsonii*) ;
  - Atrophic rhinitis
  - Sarcoptic mange
  - Porcine epidemic diarrhea (PEDV)
  - Delta coronavirus (SDCV),
  - Transmissible gastroenteritis (TGE)
  - Senecavirus A
  - Influenza
  - Salmonellosis
  - Leptospirosis
- Selected boars must be free of:
  - Porcine reproductive and respiratory syndrome (PRRS)
  - *Mycoplasma hyopneumoniae*
  - Porcine pleuropneumonia *Actinobacillus pleuropneumoniae* ;
    - App serotypes 1 and 5 as well as all other serotypes, unless it can be demonstrated that there is an absence of clinical signs in other serotypes.
  - Transmissible gastroenteritis (TGE)

- Porcine epidemic diarrhea (PEDV)
- Delta coronavirus (SDCV)
- Senecavirus A

7.2 Treatment and vaccination program (quarantine and boar units)

7.2.1 Sarcoptic mange

Treatment and eradication of sarcoptic mange *(Sarcoptes scabiei)* must be carried out in the isolation (quarantine) unit, when the source is considered positive.

7.2.2 Porcine circovirus

It is strongly recommended that boars have been vaccinated on at least two occasions in their lives against porcine circovirus before entering the boar stud unit:

- a single vaccination in the isolation (quarantine) unit is recommended for boars that have already been vaccinated at the farm of origin.
- double vaccination in the isolation (quarantine) unit is recommended for boars who have never been vaccinated against porcine circovirus.

7.2.3 Glässer's disease (*Glaesserella parasuis*)

Vaccination in the isolation (quarantine) unit is especially recommended for boars from disinfected herds.

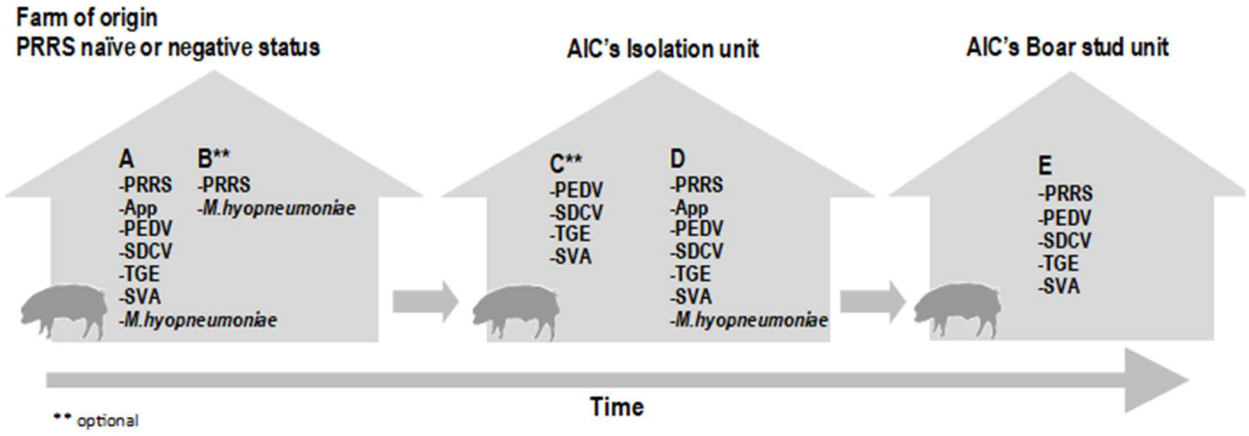
7.2.4 Porcine parvovirus and Swine erysipelas (*Erysipelothrix rhusiopathiae*).

Animals in the boar units must be vaccinated twice a year.

7.2.5 Endoparasites

Treatment against internal parasites (endoparasites) should be carried out every six months in the boar units. When no treatment is done in quarantine for mange, then the boars need to be treated for internal parasites.

8 Macro plan of the testing strategy



The macro plan shows the blood tests performed on boars from the farm of origin to the boar stud unit. PRRS virus, App (all serotypes), PEDV, TGE, SDCV, SVA and Mycoplasma status is checked by the CDPQ program.

Blood draw(s)

Samples must be taken during isolation. Sera can be tested for PRRS by ELISA X3 and PCR.

8.1 Blood draw A

This sampling is carried out at the farm of origin or at the farm quarantine, under the responsibility of the CFIA-accredited veterinarian. This sampling is carried out less than 30 days before the boars are sent to isolation.

- **SRRP, App and *M.hyopneumoniae*:**
  - Sera are sent for verification of serological status
- **DEP, DCVP, GET and Senecavirus A**:
  - sampling of pig saliva or manure must be taken from a minimum of four pens

8.2 Blood draw B

This sampling is optional for farms with a naïve PRRS status, and mandatory for farms with a recent PRRS history, or when the farm is located in an area where hog farms exist within 5 km. The veterinarian designated by the CDPQ may require additional sampling and testing less than

7 days before animals are transported to IAC quarantine facilities. Sera can be verified by ELISA X3 and PCR tests.

8.3 Blood draw C

This sampling is optional and is carried out by the isolation building staff within three to five days after the animals enter. A pool of five manure samples per room must be taken for PCR testing against PED, GET, SDCV and Senecavirus A.

8.4 Blood draw D

This sample is taken by insemination center staff within three to five days before transport to the verraterie.

- SRRP, App and *M.hyopneumoniae*:
  - Sera are serologically tested for all boars;
- DEP, DCVP, GET and Senecavirus A:
  - A pool of five manure samples per premises is taken for PCR testing against DEP, DCVP, GET and Senecavirus A.

8.5 Blood draw E

These samples are taken every week to check the status of each boar population:

- PRRS:
  - PCR test twice weekly on a pool of ten sera and ELISA-X3 tests monthly on a minimum of ten sera;
- PEDV, SDCV, GET and Senecavirus A:
  - Weekly PCR tests on a pool of five manure samples.

9 Health status certification for boars destined for AI centres (PRRS)

9.1 Recommended laboratory tests

- IDEXX ELISA-X3 test (to detect antibodies)
- PCR test Tetracore, Life ou IDEXX (to detect virus)
- No «in-house» tests can be used

9.2 Evaluation Strategy

A signed health certificate confirming the absence of clinical signs of disease throughout the growth period received within **two weeks** prior to moving the boars from the farm to the AI centre's quarantine.

Verification of PRRS status (less than 30 days before shipment):

- Serums
  - IDEXX ELISA-X3 test
    - From sera taken from each boar
  - PCR test
    - On all sera collected and tested in pools of 10

9.3 Interpretation of the ELISA-X3 test on serum

Each sample is interpreted individually:

- S:P ratio <0.30 ➡ PRRS-negative animal
- S:P ratio ≥ 0.30 and < 0.40 ➡ PRRS-suspect animal
- S:P ratio ≥ 0.40 ➡ PRRS-positive animal

9.4 Interpretation of the PCR test Tetracore

- CT > 35 ➡ group of animals - negative status
- CT <= 35 ➡ group of animals - positive status.

9.5 Interpretation of the PCR test Life

- CT> 35 ➡ group of animals - negative status
- CT 33-35 ➡ group of animals - suspect status
- CT<33 ➡ group of animals - positive status.

9.6 Interpretation of the PCR IDEXX

- According to manufacturer's recommendations

9.7 Possible responses

- All results are negative for ELISA-X3 and PCR tests:
  - All boars are accepted.
- Certain boars are suspect or positive with the ELISA-X3 test and negative with the first PCR test.
  - Complementary test with a different PCR kit on all suspected or positive ELISA-X3 cases (minimum 5 sera with higher S/P) (to be tested in pool of 5)
    - 2nd PCR test is negative:
      - The batch is declared with negative status; boars with negative status for ELISA-X3 are accepted; boars with positive or suspect status for ELISA-X3 are rejected.
    - 2nd PCR test is positive:
      - All the boars are refused.
- Certain boars are positive with the first PCR testing:
  - All the boars are refused.

10 Health status certification for boars destined for AI centres (App)

10.1 Recommended laboratory test

- Multi-APP Ac ELISA test (to detect antibodies)

10.2 Evaluation Strategy

A signed health certificate confirming the absence of clinical signs of disease throughout the growth period.

All herds:

- Verification of each boar's serological status for porcine pleuropneumonia caused by *Actinobacillus pleuropneumoniae* (Multi APP Ac ELISA test).

10.3 Interpretation of the Multi APP Ac ELISA test

- Each sample is interpreted individually:
  - Negative ➡ negative animal
  - Positive ➡ positive animal

10.4 Possible results

- All results in the Multi APP Ac ELISA test are negative:
  - The boars are accepted.
- Some boars are positive:
  - The positive boars are tested for all serotype (minimum 5 sera with the highest D0 need to be tested)
    - If some of the results from the 5 boars are positive for serotype 1 and/or 5, then all the positive boars must be tested for all serotypes in order to determine the health status of App 1 and 5 and other serotypes. Positive boars for serotypes 1 and/or 5 will be excluded from introduction into isolation.
    - If the prevalence of the serotype 1 et/ou 5 is more than 5%, the supplier's veterinarian will need to investigate the App status of the farm.

- For serotypes other than 1 and/or 5, follow up with the supplier's veterinarian to share his monitoring program to demonstrate that the serotype(s) other than 1 and 5 are not causing clinical signs of economic importance on the farm.
    - Depending on the information gathered by the veterinarian, boars may be introduced into the isolations and the information revalidated in 12 months.

11 Health status certificate for boars destined for centres (PEDV, TGE and SDCV)

11.1 Recommended laboratory test

- Test PEDV-TGE-SDCV PCR from Tetracore (virus detection);
- Test PEDV PCR, TGE PCR and SDCV PCR of the Faculté de médecine vétérinaire de l'Université de Montréal (to detect virus).

11.2 Evaluation Strategy

- A signed health certificate confirming the absence of clinical signs of disease throughout the growth period received within **two weeks** prior to moving the boars from the farm to AI centres quarantine
- Verify the absence of the virus with the PCR technique using one of two options:
  - **Option A)** Oral fluids with the rope technique in a minimum of four pens;
  - **Option B)** Manure samples are taken in a minimum of 4 pens with the possibility to sample the boots of the producer or the walkway.
    - The samples can be pooled (maximum of 4) at the laboratory before testing for the virus with PCR tests.
- The sampling should be done as close as possible to the shipment of the boars and no more than 30 days prior shipment of the boars in quarantine.

11.3 Interpretation of the PCR test

Each sample is interpreted individually:

- Interpretation of the PEDV-TGE-SDCV PCR test from Tetracore:
  - CT ≤ 35 ➡ positive sample;
  - CT > 35 et ≤ 38 ➡ suspect sample;
  - CT > 38 ➡ negative sample.

- Interpretation of the PEDV-TGE-SDCV PCR test from the Faculté de médecine vétérinaire:
  - CT ≤ 35 ➡ positive sample;
  - CT > 35 et ≤ 40 ➡ suspect sample;
  - CT > 40 ➡ negative sample.

Note: The interpretation of these tests can change according new scientific knowledge which will emerge

11.4 Possible results

- All results in the PEDV-TEG-SDCV PCR test are negative:
  - All the boars are accepted.
- Some boars are suspect or positive:
  - Ask for additional testing on suspect or positive samples already in the laboratory:
    - Separate (no-pool) and run again the PCR test on each sample.
    - Take another set of oral fluids (minimum of 4) or manure samples in 4 pens (the ones that are around the first set of samples):
      - Run the PCR test on oral fluids or on manure samples.
- If at least one sample turns out positive for one of these tests,

  no boars will be admitted to the AI centre.

12 Certification of the health status of boars for the centres (Senecavirus A)

12.1 Recommended laboratory technique

- PCR test for Senecavirus A.

12.2 Evaluation strategy

- A signed health certificate confirming the absence of clinical signs of disease throughout the growth period received within **two weeks** prior to moving the boars from the farm to AI centres quarantine
- Verify the absence of the virus with the PCR technique using one of two options:
  - **Option A)** Oral fluids with the rope technique in a minimum of four pens;
  - **Option B)** Manure samples are taken in a minimum of 4 pens with the possibility to sample the boots of the producer or the walkway.
- Verification of the absence of Senecavirus A will be confirmed by the PCR test on four samples (which can be pooled by 4)
  - The sampling should be done as close as possible to the shipment of the boars and no more than 30 days prior shipment of the boars in quarantine.

12.3 Interpretation of the PCR tests

Each result is interpreted individually:

- Interpretation of the test for the Senecavirus A:
  - CT value < 35 ➡ positive sample;
  - CT value >= 35 et ≤ 38 ➡ suspicious sample;
  - CT value > 38 ➡ negative sample.

Note: The interpretation of these tests may change depending on the new scientific knowledge that emerges.

12.4 Possible answers

- All results are negative compared to the PCR test for Senecavirus A:
    - Boars are accepted.
- Some results are suspicious or positive:
    - Request additional tests on suspect or positive samples already in the laboratory:
        - Separate (depool) and repeat the PCR test.
    - Take oral fluids (minimum of 4) or manure samples from four parks (those nearby):
        - Do the PCR test on oral fluids or manure samples.
        - If only one of the samples is positive in relation to any of the tests, no boar is allowed in the centre.

13 Health status certificate for boars destined for centers (*Mycoplasma hyopneumoniae*)

13.1 Recommended laboratory technique

- IDEXX ELISA test (antibody test).

13.2 Evaluation strategy

- Signed health certificate confirming the absence of clinical signs of disease during the entire growing period ;
- For all farms:
  - Verification of the serological status of 30 selected boars or 30 other animals in the same building for *Mycoplasma hyopneumoniae* (IDEXX ELISA).

13.3 IDEXX ELISA test interpretation

Each sample is interpreted individually:

- S/P < 0,30 ➡ negative animal status;
- S/P ≥ 0,30 et < 0,39 ➡ suspect animal;
- S/P ≥ 0,40 ➡ positive animal status.

13.4 Possible answers

- All IDEXX ELISA results are negative:
  - All boars accepted.
- Some boars have positive status:
  - Request additional tests as follows:
    - Positive samples are retested by another serological test, or PCR tests are performed using laryngeal or tracheobronchial samples (pool of 5).
  - If the 2nd test chosen is a serological test and it is positive:
    - Laryngeal or tracheobronchial samples should be taken and PCR tests performed (pool of 5).
  - If the 2nd serological tests are all negative,

        - Only boars negative to IDEXX ELISA are accepted.
    - If the 2nd or 3rd additional tests on laryngeal or tracheobronchial samples are all negative,
        - Only IDEXX ELISA-negative boars are accepted.
    - If only one of the samples comes out positive against the PCR test on the laryngeal or tracheobronchial samples,
        - Boars are all rejected.

14 Supervisory procedures for boar stud units (PRRS)

14.1 Recommended laboratory tests

- IDEXX ELISA-X3 test (to detect antibodies)
- PCR test Tetracore, Life or IDEXX (to detect virus)

14.2 Minimum testing strategy by boar population

- Twice a week:
  - PCR on a pool of ten serums.
- Once a month (first week of month):
  - ELISA-X3 on ten serums.

Note 1 The selected animals are those with health or productivity problems (anorexia, semen quality, fever).

Note 2 Boar stud units may comprise a single building (one population) or several premises (many populations).

14.3 Possible responses

- All results are negative for both PCR testing and the ELISA-X3 test:
  - Continuation of operations.
- One ELISA-X3 result is positive or suspect:
  - Repeat test with SRRP PCR test (pool of 5)
- One PCR result is positive:
  - Immediate alert and possible suspension of operations at the centre (see Emergency procedure in case of PRRS alert in an AIC).

14.4 Monitoring the incidence of health problems potentially linked to PRRS

Incidence (number of new cases) of the following health problems is recorded each day:

- number of boars not eating
- number of boars producing poor quality semen

- number of boars coughing or having trouble breathing.

An abnormal increase in the incidence of these problems (twice as much as usual) over a period of three days is cause for an immediate alert (see Emergency procedures in case of a PRRS alert in an AIC).

15 Supervisory procedures for boar stud units (*Mycoplasma hyopneumoniae*)

15.1 Recommended laboratory tests

- IDEXX ELISA test (antibody test)

15.2 Minimum testing strategy by boar population

- Once a month (first week of the month):
    - ELISA test on twenty serums.

Note 1: The selected animals are those with health or productivity problems (anorexia, semen quality, fever).

Note 2: Boar stud units may comprise a single building (one population) or several premises (many populations).

15.3 Possible answers

- All results are negative for both PCR testing and IDEXX ELISA test:
    - Continuation of operations.
- One IDEXX ELISA result is positive:
    - Request additional tests as follows:
        - Positive samples are retested by another serological test or PCR tests are performed using laryngeal or tracheobronchial samples (pool of 5).
        - If the 2nd test chosen is a serological test and it is positive:
            - Laryngeal or tracheobronchial samples must be taken and PCR tests performed (pool of 5).
        - If the 2nd serological tests are all negative:
            - Continuation of operations.
        - If the 2nd or 3rd additional tests on laryngeal or tracheobronchial samples are all negative:
            - Continuation of operations.
- If only one of the samples tests positive against the PCR test on the laryngeal or tracheobronchial samples, the AI center is considered positive. A preventive vaccination

program may then be considered, according to the recommendations of the veterinarian in charge of the insemination center, followed by an eradication program.

16 Supervisory procedures for boar stud units (App)

16.1 Recommended laboratory tests

- Multi APP Ac ELISA test from FMV (antibody test)

16.2 Minimum testing strategy by boar population

- Every 3 months (first week of the month):
    - Multi APP Ac ELISA test on twenty serums of boars entered the unit in the las 3 months.

Note 1: The selected animals are those with health or productivity problems (anorexia, semen quality, fever).

Note 2: Boar stud units may comprise a single building (one population) or several premises (many populations).

16.3 Possible answers

- All results negative from FMV Multi APP Ac ELISA test
    - Continuation of operations.
- One or more results of the Multi APP Ac ELISA test are positive, validate the need to set up an eradication program for App, depending on the serotype, with the veterinarian in charge of the insemination center.

17 Supervisory procedures for boar stud units (PED, TGE et SDCV)

17.1 Recommended laboratory tests

- PCR test (virus detection).

17.2 Minimum testing strategy by boar population

- Once a week :
    - PCR test on a pool of five manure samples per premises or a Swiffer from the waiting area, beside the collection area.

Note 1: The selected animals are those with health or productivity problems (anorexia, semen quality, fever).

Note 2: Boar stud units may comprise a single building (one population) or several premises (many populations).

17.3 Possible answers

- All results negative
    - Continuation of operations.
- One result is positive:
    - Immediate alert and possible suspension of center activities (see emergency procedure in the event of a PET, TGE or SDCV alert in an IAC).

17.4 Monitoring the incidence of health problems potentially linked to PED, TGE and SDCV

- Incidence (number of new cases) of the following health problems is recorded each day:
    - Number of boars not eating ;
    - Number of boars vomiting;
    - Number of boars showing diarrhea or soft manure.
- An abnormal increase in the incidence of these problems (twice as much as usual) over a period of two days cause an immediate alert (see Emergency procedures in case of PED, TGE, SDCV alert in an AIC).

18 Supervisory procedures for boar stud units (SVA)

18.1 Recommended laboratory tests

- PCR test (virus detection).

18.2 Minimum testing strategy by boar population

- Once a week :
    - PCR test on a pool of five manure samples per premises or a Swiffer from the waiting area, beside the collection area.

Note 1: The selected animals are those with health or productivity problems (anorexia, semen quality, fever).

Note 2: Boar stud units may comprise a single building (one population) or several premises (many populations).

18.3 Possible answers

- All results negative
    - Continuation of operations.
- One result is positive:
    - Immediate alert and possible suspension of center activities (see emergency procedure in the event of a SVA alert in an IAC).

18.4 Monitoring the incidence of health problems potentially linked to SVA

- Incidence (number of new cases) of the following health problems is recorded each day:
    - Number of boars not eating ;
    - Number of boars with vesicular lesions on nose and around the hoof.

19 Emergency procedures in case of a PRRS alert in an AIC

19.1 Positive blood test result

The insemination centre that receives a positive blood test result (one PCR test or many ELISA-X3 positive tests) must take these two steps within the following 24 hours:

POSITIVE PCR TEST:

The sale of semen from all boars in the building is suspended until further tests have been carried out.

- ❖ Request additional tests on sera already in the laboratory:
    - ◦ Repeat the SRRP PCR test (pool of 3) with a test from a different company on all serum samples and perform ELISA-X3 tests on all serum samples;
- ❖ Repeat blood tests on boars of doubtful health status and neighboring boars (both right, both left, both rear and both front):
    - ◦ Perform the ELISA-X3 test on each serum and a PCR test on pools of three sera.

POSITIVE ELISA-X3 TEST:

Request additional tests on sera already in the laboratory:

- ◦ Perform SRRP PCR test (pool of 3) on the 5 samples with the highest S/P ratios.

FOLLOW-UP:

Repeat blood tests on boars of questionable health status and neighboring boars (both right, both left, both rear and both front):

- ◦ Perform the ELISA-X3 test on each serum and a PCR test on pools of five sera.

19.2 Increase in health problems

An insemination centre that sees a significant increase in the incidence of health problems potentially related to PRRS must take the following measure within the next 24 hours:

Take blood draws from the boars with health problems and from the neighbouring boars (the two on the right, the two on the left, the two behind and the two in front):

Do the ELISA-X3 test on each serum and a PCR on pools of three serums.

Possible responses

- ❖ Results of the further tests are negative:

- Continuation of operations
- New verification (ELISA-X3 and PCR) of the suspect boars and their neighbours three days after the alert.

❖ Results of the further tests are positive:

- the centre is declared positive
- suspension of all operations

19.3 Procedure when an IAC is contaminated with the PRRS virus.

19.3.1 Insemination centre is positive

❖ Collect serum from each boar (within less than 24 hours of identifying the problem):

- do ELISA-X3 test on each serum
- do PCR testing on the pools of five serums
- do PCR testing on each serum from the positive pools
- identify the positive and the suspect boars
- identify all the farms that received potentially infected semen and alert them to the situation.

Note **An insemination centre taking part in PGSCIA that finds itself infected with the PRRS virus is not responsible for the actions to be taken at the client's farm. However, the insemination centre manager may make the following suggestions in the letter to farmers:**

❖ Advise the farmer/herdsman to inform his consultant veterinarian as soon as possible so measures judged appropriate can be taken.

❖ Suggest the recommendation from the CDPQ-designated veterinarians on what to do in case of a PRRS outbreak in an AIC:

- put any sows that were inseminated with the suspect semen into an isolation (quarantine) unit and wait one month before verifying their health status or
- send all sows inseminated with the suspect semen to the slaughterhouse.

20 Emergency procedure in the event of a PEDV, TGE, SDCV or SVA alert

20.1 Positive test result

The insemination center that receives a positive result (a positive PCR test) must take the following two steps within 24 hours:

- Suspend the sale of semen from all boars located in the building until further testing has been completed.
- Request further tests on the positive samples already in the laboratory:
  - Repeat PCR test.
- Take manure or rectal swab samples from boars of doubtful status and neighboring boars (both right, both left, both rear and both front:
  - Perform PCR test on manure samples or rectal swabs.

20.2 Increase in health problems

The insemination center that observes a significant increase in the incidence of health problems potentially related to DEP, GET, DCVP or SVA must take the following action within 24 hours:

- **PED, TGE ou SDCV**
  - Take manure samples or rectal swabs from boars with health problems and neighboring boars (both right, both left, both rear and both front):
    - PCR test manure samples or rectal swabs.
- **SVA**
  - Take manure samples, rectal swabs or fluid from vesicles of boars with health problems and neighboring boars (both right, both left, both rear and both front):
    - Perform a PCR test on manure samples or rectal swabs.

Possible responses

- All results are negative:
  - Continuation of operations;

- New verification (PCR test) of boars of doubtful status and neighbors, three days after the alert.

❖ Additional test results are positive:

- The center is declared of positive sanitary status;
- Suspension of all activities.

20.3 Emergency procedures in case of a PEDV, TGE, SDCV or SVA in an AIC

20.3.1 Insemination center with positive health status

All farms that have received potentially contaminated semen are identified and warned.

Note: The insemination center participating in the PGSCIA, which finds itself contaminated by the DEP, GET, DCVP or SVA virus, is not responsible for the actions that will be taken on the farm. However, the insemination center manager can make the following suggestions in his letter to breeders:

Suggest that the breeder notify his consulting veterinarian as soon as possible to take any action deemed appropriate.

21 Microbiological quality control of the semen

21.1 Objectives

- Sperm survival
- Bacteriological quality of the diluted semen

21.2 Methods

21.2.1 Bacteriological monitoring of the semen sent to farms

Each week, three to five boar semen samples that have been stored for 72 hours, are selected for bacteriological testing.

Two methods are to be used in the AICs:

1. Méthode rapide non qualitative (3 types) :
    a. On-site analysis with Petrifilm™ technology from the 3M company:
        - One milliliter of seed is inoculated and incubated for 72 hours at 30°C;
        - Bacteria are counted and the information recorded in a register;
        - A bacterial count of more than 10 colonies per ml on three consecutive samples suggests a problem; notify those responsible.
    b. Alternatively, on-site analysis can be done with Compact Dry™ technology.
    c. On-site analysis can also be done on blood agar plates.
2. Precise qualitative method: analysis at the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ) laboratory (see Appendix 4) (minimum of ten samples per month).

21.2.2 Bacteriological monitoring of the water

The bacteriological quality of the water will be assessed on a regular basis (min. once per month). Water containing more than 10 colonies will be considered inadequate for semen preparation.

Appendix 1 - Registration Form for AI centres

Note: Fill out one form for each boar stud unit

GENERAL INFORMATION	
Company name:	
Boar stud unit name:	
Boar stud unit address:	
Contact name:	
Phone:	
Cell phone:	
Fax:	
E-mail:	
Billing address:	
Number of pig-places:	

Participation fees for the PGSCIA program for 2025-2026 have been set at 650$ per boar stud unit.

The fees per batch of animals assessed by the CDPQ-designated veterinarian vary according to the size of the batch:

- 100 $: 10 boars or less
- 125 $: 11-30 boars
- 150 $: 31-60 boars
- 250 $: more than 60 boars

The member certifies that this information is correct and undertakes to comply with the registration requirements of the PGSCIA for 2025-2026.

Owner or Agent

Date

Appendix 2 - Contact Details for the Resource Persons

Head office

Centre de développement du porc du Québec inc.
815 Route Marie-Victorin
Lévis (secteur St-Nicolas) G7A 3S6
Phone : 418 650-2440
E-mail : labo-sante@cdpq.ca

Resources

Marie-Claude Poulin, D.V.M., D.A.
Phone : 418 522-6015
E-mail : marie-claude.poulin@hotmail.co.uk

Claudia Coulombe, Animal health technician
Centre de développement du porc du Québec inc.
E-mail : ccoulombe@cdpq.ca

Christian Klopfenstein, Ph. D., D.V.M,
Centre de développement du porc du Québec inc.
E-mail : cklopfenstein@cdpq.ca

Appendix 3 - CDPQ Health Certificate for Boar Entry into the AIC (D03)

CDPQ Health Certificate for Boar Entry into the AIC

Farm name _____ **Inventory in finishing unit** _____

% Mortality	Months of the year (the last 6 months)					
Preweaning						
Nursery						
Finishing						

Disease	Clinical signs	Date of last testing	Laboratory			Health Status[1]	
			ELISA	PCR	Others	Positive	Negative
Enzootic pneumonia			☐	☐	☐	☐	☐
Pleuropneumonia (App)			☐	☐	☐	☐	☐
Actinobacillus suis			☐	☐	☐	☐	☐
Glässer's disease			☐	☐	☐	☐	☐
PRRS			☐	☐	☐	☐	☐
Proliferative enteropathy			☐	☐	☐	☐	☐
PCVAD			☐	☐	☐	☐	☐
Dysentery (*Brachyspira hampsonii* et *Brachyspira hyodysenteriae)*			☐	☐	☐	☐	☐
Atrophic rhinitis			☐	☐	☐	☐	☐
Sarcoptic mange			☐	☐	☐	☐	☐
PED			☐	☐	☐	☐	☐
Delta coronavirus (SDCV)			☐	☐	☐	☐	☐
TGE			☐	☐	☐	☐	☐
Senecavirus A			☐	☐	☐	☐	☐
Influenza			☐	☐	☐	☐	☐
Salmonella			☐	☐	☐	☐	☐
Other significant health problems							
Have your animals been vaccinated? If yes, what vaccines were used?							
Date of the last veterinarian's visit (less than 3 months)							

1- Establish the health status based on laboratory results, veterinary visits, slaughterhouse controls or any other diagnostic means.

I, the undersigned, declare that I have forwarded to the veterinarian all the information necessary to assess the health of my herd. Furthermore, in the event of significant changes in the months following the delivery of my animals (boars), I undertake to promptly inform the CDPQ-designated veterinarian.

_____ _____

Owner or Agent Date

I, the undersigned, certify that the above information is, to the best of my knowledge, complete and accurate.

_____ _____

Veterinarian Date

Document to be forwarded to CDPQ **E-mail:** labo-sante@cdpq.ca

Appendix 4 - Laboratories

Serological tests for *Actinobacillus pleuropneumoniae*

The animal health services laboratories of the Service de diagnostic de la Faculté de médecine vétérinaire (FMV) of the Université de Montréal

Serological tests for porcine reproductive and respiratory syndrome (PRRS)

Biovet laboratory in Saint-Hyacinthe

The animal health services laboratories of the Service de diagnostic de la Faculté de médecine vétérinaire (FMV) of the Université de Montréal

Tests for porcine epidemic diarrhea (PEDV), transmissible gastroenteritis (TGE) and diarrhea caused by porcine delta coronavirus (SDCV)

Biovet laboratory in Saint-Hyacinthe

The animal health services laboratories of the Service de diagnostic de la Faculté de médecine vétérinaire (FMV) of the Université de Montréal

Tests for Senecavirus A

Biovet laboratory in Saint-Hyacinthe

The animal health services laboratories of the Service de diagnostic de la Faculté de médecine vétérinaire (FMV) of the Université de Montréal

Microbiological analysis (semen) and autopsies

The animal pathology laboratory of the ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ)

The animal health services laboratories of the Service de diagnostic de la Faculté de médecine vétérinaire (FMV) of the Université de Montréal

Centre de développement du porc du Québec inc.
815 Route Marie-Victorin
Lévis (Secteur St-Nicolas) G7A 3S6

☎ **418 650-2440**

www.cdpq.ca

@cdpqinc