

PORK PRODUCTION TECHNICIAN

Provincial Occupational Analysis

2013

ACKNOWLEDGEMENTS

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GUIDE TO ANALYSIS

DEVELOPMENT OF ANALYSIS

A draft analysis is developed by a knowledgeable consultant who, with the assistance of a committee of industry experts, identifies all the tasks performed in the occupation.

The analysis is forwarded to specialists in the field for validation. Their recommendations are assessed and incorporated into the final draft which also includes the identification of the common core tasks performed in the occupation.

STRUCTURE OF ANALYSIS

To facilitate the understanding of the nature of the occupation, the work performed is divided into the following divisions:

BLOCK

Is the largest division within the analysis and reflects a distinct operation relevant to the occupation.

TASK

Is the distinct activity that, combined with others, makes up the logical and necessary steps the worker is required to perform to complete a specific assignment within a "BLOCK."

SUB-TASK

Is the smallest division into which it is practical to subdivide any work activity and, combined with others, fully describes all duties constituting a "TASK."

Supporting Knowledge and Abilities

The element of skill and knowledge that an individual must acquire to perform the task adequately.

Trends

Any shifts or changes in technology or the working environment which affect the block are identified under this heading.

Terminology

A Glossary of terms in this occupational analysis is provided in Appendix "B" on page 49. Terms that are introduced for the first time in the analysis will be indicated in *italics* and their definitions can be found in the Glossary. Thereafter throughout the analysis, the terms will be in normal type.

VALIDATION METHOD

A draft of the analysis is sent to a representative number of trade experts in Manitoba for validation. The trade expert reviews each sub-task in the analysis and provides feedback on whether it is performed by workers in the occupation in Manitoba.

The Provincial Advisory Committee (PAC) applies percentage ratings to the blocks and tasks. This method for validation identifies common core tasks across Manitoba and establishes the relative importance of the blocks and tasks for the creation of a provincial certification examination.

DEFINITIONS

- YES:** the sub-task is performed by workers in the occupation.
- NO:** the sub-task is not performed by workers in the occupation.
- BLOCK %:** the average number of questions (items), derived from the collective decision made by the Provincial Advisory Committee, which will be placed on a provincial examination to assess each block of the analysis.
- TASK %:** the average number of questions (items), derived from the collective decision made by the Provincial Advisory Committee, which will be placed on a provincial examination to assess each task of the analysis.

PIE CHART (APPENDIX “C”)

The pie chart depicts the percentages the Committee assigned to blocks in the analysis during validation.

SCOPE OF THE TRADE

A pork production technician is responsible for the general care of pigs in a pork production facility. Overall duties include the care of the breeding herd and of the growing pigs in their development from birth to market. Specific duties include feeding and watering of the pigs, pig health care and stockmanship. The pork production technician also ensures the barn environment is maintained, safe and sanitary. Good observation skills, teamwork skills, and careful recordkeeping are essential for the effective functioning of the facility.

Further training is required for working with the collection and processing of semen for the purposes of artificial insemination. Also, a pork production technician working in a pig research facility will need further training.

Some of the duties of animal health technicians overlap with the skills identified for this occupation, specifically pig health care and basic care for animals. The animal health technician (vet assistant) is an example of an occupation which may have duties similar to those analyzed in this document.

The analysis is not a course of study and it is not intended that the tasks and sub-tasks be mastered in the sequence shown. The primary purpose is to serve as an indication of the skills and abilities of a journeyperson. The document may be used as a basis for setting the expected outcomes of institutional and on-the-job training programs.

OBSERVATIONS AND TRENDS ARISING FROM ANALYSIS

The Canadian pork production industry is constantly changing due to fluctuating market demands and supply, hog prices, Canadian dollar value (relative to U.S.), input costs, government legislation, and availability of skilled labour. A recent trend has been toward larger, more modern and efficient hog barns. These modern barns have improved conditions for both the worker and the animals. Efforts to improve production and efficiency have also resulted in a more cost effective, high quality product. Manitoba remains a competitive source of high quality pork to the domestic and world market. It is the largest pig-producing and pig-exporting province in Canada.

A number of issues are at the forefront of the pork production industry. First, protection of the environment continues to be a priority for the industry. Despite this high level of stewardship from the industry, the Manitoba government has implemented additional acts and regulations that have limited growth. For example, in the last six to eight years environmental concerns in the Lake Manitoba watershed, which were found to be a result primarily of human waste issues, has led to the S.E. Manitoba Moratorium on Buildings which has resulted in reduced unit numbers of pig production facilities. The Livestock Manure and *Mortalities* Management Regulation (M.R. 42/98) under *The Environment Act* (C.C.S.M. CE 125) ensures the sustainability of the environment through enforcement capabilities (minimum requirements for storage, handling and application of livestock waste and the proper way of dealing with dead animals).

Second, quality assurance standards and consumer preferences are leading to reduced antibiotic use and, in general, the control of medications in the pork industry. Testing for *drug residues* ensures the product does not reach the marketplace if it exceeds the national drug residue standards.

Third, animal welfare issues for pork producers deal with a number of issues. *The Recommended Code of Practice for the Care and Handling of Animals: Pigs*, outlines recommendations for livestock housing and handling practices which are monitored by the swine industry. In addition, the introduction of an *Animal Care Assessment (ACA)* has led to audits being conducted to ensure the acceptable and appropriate housing of pigs and further awareness of animal welfare in general.

Bio-security has become an increasingly important concern for the health of the animals. The controlled entry to barns reduces the risk of disease and benefits the animal, producer and consumer.

The industry is currently experiencing a large increase in the number of foreign workers entering the trade. These foreign workers have experience as swine technicians in their country of origin. When recruiting local workers, wherever possible, workers with farm backgrounds are preferred. However, with the significant need for workers, organizations are recruiting and training more workers with limited farm backgrounds.

The hog industry has experienced challenges in the last number of years in the form of the global recession, U.S. implementation of the *Country of Origin Labeling (COOL)* policy, the misnomer of the H1N1 virus as the “swine flu”, the weak U.S. dollar relative to the Canadian dollar, and the record-high feed costs due to rising corn and grain prices. However, hog producers have reworked their businesses and have adapted to these challenges by working together progressively and cooperatively. Recent trends in the areas of the progression of genetics, evolving products and production methods, advances in technology, globalization in the industry, recruitment of highly skilled workers, and feed nutrition have led to improved efficiency and sustainability in the industry.

ANALYSIS

BLOCK A

OCCUPATIONAL SKILLS

Trends: There have been advancements in bio-security in the industry in recent years. There is also an increased importance in animal and worker safety as well as higher standards in quality control. The trade is also becoming more of a skilled trade, requiring higher education levels of the workers entering the industry.

TASK 1 FOLLOWS BIO-SECURITY PROTOCOL.

Sub-task

1.01 Follows barn entry procedure.

Supporting Knowledge and Abilities

Knowledge of bio-security issues and barn policy
Ability to follow barn's bio-security procedures
Ability to observe barn's *pig-free* time
Ability to follow barn entry policy

1.02 Follows transportation protocol.

Supporting Knowledge and Abilities

Knowledge of bio-security
Knowledge of causes of disease transfer
Knowledge of transportation of market or *cull* animals
Knowledge of procedures for receiving stock
Ability to maintain *disease barrier* during receiving or shipping
Ability to coordinate traffic flow outside the barn

1.03 Follows quarantine procedures.

Supporting Knowledge and Abilities

knowledge of causes of disease transfer

knowledge of acclimatization and immunity

ability to receive new stock

ability to isolate new stock

ability to sequence work activities to maintain disease barrier

1.04 Maintain disease barrier.

Supporting Knowledge and Abilities

knowledge of disease vectors

knowledge of quarantine procedures

ability to apply quarantine procedures

ability to keep *vermin* out

ability to recognize signs of vermin

ability to avoid cross contamination between barns or areas of the barn

ability to use foot baths

ability to sequence work activities to minimize disease transfer

TASK 2 WORKS CO-OPERATIVELY IN TEAM ENVIRONMENT.

Subtask

2.01	Shares in housekeeping chores.	Supporting Knowledge and Abilities Knowledge of scheduling teamwork activities Knowledge of benefits/advantages of teamwork in the barn Knowledge of importance of housekeeping Ability to share duties Ability to perform housekeeping chores Ability to communicate with co-workers
2.02	Prioritizes work tasks.	Supporting Knowledge and Abilities Knowledge of critical control points Ability to be flexible Ability to think critically Ability to prioritize
2.03	Assists where needed.	Supporting Knowledge and Abilities Knowledge of teamwork Knowledge of production cycle Ability to be flexible Ability to recognize when assistance is needed Ability to communicate with co-workers

2.04 Communicates with co-workers and supervisors.

Supporting Knowledge and Abilities

Knowledge of interpersonal skills

Knowledge of organizational structure

Knowledge of resolving conflicts

Knowledge of communications and reporting structure

Ability to communicate effectively

Ability to listen

Ability to resolve conflicts

Ability to accept direction

Ability to be inclusive of other races/cultures and appreciative of diversity

TASK 3 FOLLOWS BASIC SAFETY PRACTICES

Sub-task

3.01 Performs CPR.

Supporting Knowledge and Abilities

Knowledge of CPR

Ability to perform CPR

3.02 Performs basic first aid.

Supporting Knowledge and Abilities

Knowledge of basic first aid

Knowledge of intervention methods and how to access them

Ability to perform basic first aid, as required

Ability to ensure first-aid kit is stocked and easily accessible

Ability to determine when further intervention is required

3.03 Follows WHMIS regulations.

Supporting Knowledge and Abilities

Knowledge of up-to-date Workplace Hazardous Materials Information Systems (WHMIS)

Knowledge of up-to-date Material Safety Data Sheets (MSDS)

Ability to follow WHMIS regulations

Ability to use MSDS sheets when needed

3.04 Follows barn's confined space protocol.

Supporting Knowledge and Abilities

Knowledge of confined spaces

Knowledge of working in confined spaces

Ability to identify a confined space

Ability to assist certified confined space entry personnel

Ability to use self-contained breathing apparatus equipment

3.05 Follows emergency response plans.

Supporting Knowledge and Abilities

Knowledge of fire prevention, storage and handling of flammable materials

Knowledge of potential hazards

Knowledge of emergency response plans

Ability to locate fire fighting equipment

Ability to use fire fighting equipment

Ability to follow emergency response plan

3.06 Follows barn's safety protocol.

Supporting Knowledge and Abilities

Knowledge of barn safety protocol

Ability to wear protective equipment when required

Ability to work safely around hazards

3.07 Practices safe work habits.

Supporting Knowledge and Abilities

Knowledge of importance of barn safety committees

Knowledge of safety risks

Knowledge of correct methods of lifting and bending

Knowledge of necessity to wear personal protective equipment

Knowledge of safe use and operation of equipment and tools

Knowledge of proper storage procedures for all tools

Ability to follow *safe working procedures (SWP)*

Ability to follow procedures for reporting accidents

Ability to participate in barn safety committee

Ability to check equipment and hand tools for wear and deterioration

Ability to maintain cleanliness and order in workplace and lunchroom

Ability to recognize hazardous situations

Ability to dispose of hazardous materials

Ability to keep walkways clear

Ability to ensure first aid and fire protection equipment are accessible

Ability to identify when to wear protective equipment

Ability to demonstrate safe and proper methods of using and carrying tools

Ability to assess personal and co-worker risks

TASK 4 FOLLOWS QUALITY ASSURANCE REQUIREMENTS.

Sub-task

4.01 Demonstrates knowledge of the *Canadian Quality Assurance (CQA)* program.

Supporting Knowledge and Abilities

Knowledge of CQA program

Knowledge of Animal Care Assessment (ACA)

Knowledge of food safety issues

Knowledge of animal welfare issues

Knowledge of good production practices

REMOVE: Knowledge of Hazard Analysis Critical Control Points (HAACCP)

4.02 Follows barn's procedures for quality assurance.

Supporting Knowledge and Abilities

Knowledge of barn's quality assurance protocol

Knowledge of treatment, vaccination and injection techniques

Knowledge of the procedures to collect and maintain biological samples

Ability to recognize and act on quality assurance concerns

Ability to treat, vaccinate and inject pigs

Ability to collect and maintain biological samples

Ability to understand drug withdrawal times

Ability to identify treated pigs

4.03 Reviews files.

Supporting Knowledge and Abilities

Knowledge of purging files according to government regulations

Ability to analyze files for current data

TASK 5 MAINTAINS RECORDS.

Sub-task

5.01 Records pig events.

Supporting Knowledge and Abilities

Knowledge of importance of accurate recordkeeping

Knowledge of the barn's recordkeeping system

Ability to identify pig events

Ability to record event details

Ability to record legibly and clearly

5.02 Records pig inventory.

Supporting Knowledge and Abilities

Knowledge of importance of inventory

Ability to count animals

Ability to identify pigs

Ability to identify pig's stage of production cycle

5.03 Records inventory of supplies.

Supporting Knowledge and Abilities

Knowledge of barn supplies

Ability to count feeds, medications, tools, and other supplies

Ability to communicate need for re-ordering supplies to supervisor

TASK 6 ASSISTS IN IMPROVING PRODUCTION PERFORMANCE.

Sub-task

6.01 Compares actual performance with production targets.

Supporting Knowledge and Abilities

Knowledge of production cycle

Knowledge of production targets

Knowledge of average daily gain and feed conversion

Knowledge of sow productivity

Knowledge of boar productivity

Ability to compare targets with productivity

6.02 Assists in determining improvements.

Supporting Knowledge and Abilities

Ability to report observations

Ability to think critically

Ability to problem-solve

Ability to identify problem areas in production

6.03 Implements revised procedures.

Supporting Knowledge and Abilities

Ability to follow recommendations for improvement

Ability to re-evaluate improvements and communicate results to supervisor

BLOCK B

PIG HEALTH CARE

Trends: Future aims are to reduce or eliminate biological threats to animals and for increased attention to be paid to animal welfare.

TASK 7 FOLLOWS HEALTH PROTOCOL.

Sub-task

7.01 Sanitizes health and treatment equipment.

Supporting Knowledge and Abilities

Knowledge of importance of soaps and *disinfection*

Knowledge of disease transmission

Knowledge of *Farm-Required Sanitation Procedures(FRSP)*

Knowledge of sanitation techniques

Ability to follow FRSP

Ability to clean equipment

Ability to disinfect equipment

7.02 Follows pig health care procedures.

Supporting Knowledge and Abilities

Knowledge of vaccination program

Knowledge of deworming program

Knowledge of barn's treatment protocols

Ability to administer health care products

Ability to record treatments

Ability to follow barn's health care program

7.03	Euthanizes pig following employer's policy.	<p>Supporting Knowledge and Abilities</p> <p>Knowledge of humane handling practices</p> <p>Knowledge of humane euthanasia techniques</p> <p>Knowledge of the <i>Recommended Code of Practice for the Care and Handling of Animals: Pigs</i> for pig euthanasia</p> <p>Ability to keep records on pig euthanasia</p> <p>Ability to euthanize pigs</p> <p>Ability to recognize when euthanasia is required</p>
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TASK 8 ASSESSES ANIMAL HEALTH.

Sub-task

8.01	Identifies characteristics and behavior of a healthy pig.	<p>Supporting Knowledge and Abilities</p> <p>Knowledge of pig anatomy and <i>physiology</i></p> <p>Knowledge of pig behavior</p> <p>Ability to identify characteristics of a healthy pig</p>
8.02	Identifies characteristics and behavior of an unhealthy or injured pig.	<p>Supporting Knowledge and Abilities</p> <p>Knowledge of pig anatomy and physiology</p> <p>Knowledge of pig behavior</p> <p>Knowledge of symptoms of pig diseases</p> <p>Ability to recognize symptoms of disease</p> <p>Ability to recognize pain or illness</p> <p>Ability to recognize abnormal behavior</p>

8.03 Monitor pig's physical condition.

Supporting Knowledge and Abilities

Knowledge of characteristics of healthy pigs

Ability to record treatments and reactions to treatments

Ability to recognize results of treatments

Ability to measure and monitor animal temperature

Ability to use thermometers

8.04 Identifies when intervention is required.

Supporting Knowledge and Abilities

Knowledge of symptoms of disease

Knowledge of characteristics of a healthy pig

Knowledge of characteristics of an unhealthy or injured pig

Knowledge of barn's health protocol

Knowledge of *farrowing* event

Ability to recognize herd health concerns

Ability to follow barn's health protocol for specific symptoms

Ability to recognize when intervention is needed

Ability to assist in farrowing

Ability to *foster* piglets from unhealthy sows

Ability to isolate sick or injured animals from healthy animals

Ability to identify animals that need to be euthanized

Ability to refer difficult situations to management

TASK 9 ADMINISTERS AND HANDLES ANIMAL HEALTH PRODUCTS.

Sub-task

9.01 Uses appropriate animal health product administration technique.

Supporting Knowledge and Abilities

Knowledge of administration methods

Knowledge of animal health products

Knowledge of broken needle protocol

Knowledge of safety hazards and implications in handling drugs

Ability to administer animal health products

Ability to choose needle size

Ability to follow barn's health protocol

Ability to estimate weight of animal

Ability to determine stage in production cycle

Ability to record treatments

Ability to mark and identify treated animal

Ability to follow prescription drug directions

9.02 Adheres to drug withdrawal times.

Supporting Knowledge and Abilities

Knowledge of drug residues from water feed, or direct treatment

Knowledge of residue issues

Knowledge of effect of residues on marketing

Ability to identify treated animals

Ability to record and refer to drug withdrawal times

Ability to use appropriate drug

Ability to read drug labels

Ability to hold treated animals from market

9.03 Stores and handles animal health products.

Supporting Knowledge and Abilities

Knowledge of feed and oral product distribution and storage

Knowledge of injectable product storage

Knowledge of product expiry dates

Knowledge of personal health risks when handling products

Ability to dispose of bio-hazardous materials

Ability to use personal protective equipment

TASK 10 DISPOSES OF MORTALITIES.

Sub-task

10.01 Follows carcass disposal policy.

Supporting Knowledge and Abilities

Knowledge of Manitoba's Livestock Manure and Mortalities Management Regulation (M.R. 42/98)

Knowledge of acceptable carcass disposal methods

Ability to follow barn's carcass disposal protocol

10.02 Removes carcass from barn.

Supporting Knowledge and Abilities

Knowledge of personal protective clothing

Knowledge of disease transmission

Ability to isolate carcasses from live animals

Ability to store carcasses

Ability to remove carcass from barn following bio-security protocols

Ability to use dead pig removal equipment

BLOCK C

BARN ENVIRONMENT

Trends: Increased attention is being paid to barn environment due to its importance in sustainability and productivity of the farm.

TASK 11 PERFORMS BASIC MAINTENANCE.

Sub-task

11.01 Performs regular barn inspections.

Supporting Knowledge and Abilities

Knowledge of barn equipment and tools

Knowledge of ideal environment indicators

Ability to recognize evidence of vermin

Ability to inspect barns on a daily/monthly basis

Ability to report details of inspection to supervisor

11.02 Follows preventative maintenance schedule.

Supporting Knowledge and Abilities

Knowledge of maintenance schedule

Knowledge of maintenance techniques for equipment and tools

Ability to apply maintenance techniques within government regulations and limitations

Ability to grease equipment

Ability to clean system components

Ability to adjust ventilation equipment

Ability to change water filters

Ability to tighten bolts in penning, feeders and alley gates

- 11.03 Identifies facility hazards. Supporting Knowledge and Abilities**
- Knowledge of ideal barn environment
 - Knowledge of potential risks or hazards to animals or humans
 - Knowledge of dangerous gases
 - Ability to document and report potential hazards
 - Ability to prioritize hazards and take appropriate action
- 11.04 Performs minor repairs. Supporting Knowledge and Abilities**
- Knowledge of hand tools
 - Knowledge of minor repair requirements
 - Ability to recognize repairs that require expert attention
 - Ability to perform minor repairs within government regulations and limitations
 - Ability to evaluate success of completed repairs
- 11.05 Organizes tools and equipment. Supporting Knowledge and Abilities**
- Knowledge of storage of tools and equipment
 - Knowledge of disposal requirements
 - Knowledge of the importance of an organized workplace
 - Ability to organize tools and equipment
 - Ability to *return* used equipment to the designated location
 - Ability to ensure that tools and equipment are in good working order
 - Ability to maintain an organized and clean workspace

11.06 Uses power and hand tools.

Supporting Knowledge and Abilities

Knowledge of storage of power and hand tools

Ability to follow the manufacturers' recommended operating procedures

Ability to identify and perform minor repairs using power and hand tools

TASK 12

MAINTAINS AND MONITORS HEATING/COOLING AND VENTILATION SYSTEMS.

Sub-task

12.01 Sets the heating/cooling and ventilation program.

Supporting Knowledge and Abilities

Knowledge of basic heating/cooling and ventilation systems

Knowledge of the settings required for optimal performance

Knowledge of system calibration methods

Ability to set ventilation controls

Ability to set heating/cooling systems

12.02 Monitors temperature and air quality.

Supporting Knowledge and Abilities

Knowledge of temperature and air quality required for optimal performance

Knowledge of air flow requirements and air flow patterns

Knowledge of heating/cooling and ventilation equipment including controls

Knowledge of pig behavior as it is affected by environmental conditions

Knowledge of nuisance odor guidelines
Knowledge of odor reduction techniques
Ability to recognize poor air quality
Ability to identify ventilation conditions
Ability to identify heating/cooling system
Ability to document and report major repair requirements
Ability to report odors beyond acceptable guidelines

12.03 Checks system components.

Supporting Knowledge and Abilities

Knowledge of all system components
Knowledge of the correct function of all components
Ability to recognize abnormalities of the environment
Ability to read and assess monitors
Ability to recognize and report abnormalities of the environment

12.04 Identifies system malfunctions.

Supporting Knowledge and Abilities

Knowledge of system component's function
Knowledge of alarm indicators
Knowledge of system failure implications
Knowledge of emergency procedures relating to system malfunctions
Ability to recognize, respond to and report alarm indicators
Ability to assess the implications of system failure

12.05 Reports/repairs malfunctions according to employer's policy.

Supporting Knowledge and Abilities

Ability to document details of malfunction

Ability to communicate

TASK 13 MAINTAINS SANITATION STANDARDS FOR THE FACILITY

Sub-task

13.01 Performs general cleaning.

Supporting Knowledge and Abilities

Knowledge of sanitation requirements

Knowledge of cleaning products and supplies

Knowledge of washing products and supplies

Knowledge of disinfectant

Knowledge of systematic washing procedure

Ability to disassemble penning, feeders and heat lamps

Ability to sweep the floors and scrape alleys and pens

Ability to dispose of debris

Ability to clean according to barn schedule

Ability to dust fans, heating/cooling equipment, electrical motors

Ability to mix and use disinfectant and detergents

Ability to use pressure washer

Ability to use and clean chemical backpack sprayer

Ability to perform general cleaning of the facility

13.02 Prepares for the arrival of new pigs.

Supporting Knowledge and Abilities

Knowledge of room preparation requirements

Knowledge of the purpose of cleaning

Knowledge of disease control

Knowledge of the environmental requirements for incoming pigs

Ability to scrape excess fecal matter

Ability to reassemble penning, feeders and heat lamps as needed

Ability to operate soaking system

Ability to operate pressure washing system

Ability to apply detergent and/or disinfectant

Ability to organize washing procedure to allow for drying and to *equilibrate* temperature

Ability to set and adjust ventilation controls, lighting, water delivery system, feeders and feed system, sprinkler system

Ability to install additional equipment needed for transition period

13.03 Performs a clean-out routine and operates the manure handling system.

Supporting Knowledge and Abilities

Knowledge of Manitoba's Livestock Manure and Mortalities Management Regulation

Knowledge of manure removal schedule

Knowledge of hazardous gases.

Knowledge of pit capacity and acceptable fill level

Knowledge of potential malfunctions and prevention procedures

Knowledge of priming the pits

Knowledge of manure flow system

Knowledge of nuisance odor guidelines

Knowledge of odor reduction techniques

Ability to follow schedules

Ability to determine pit level and assess need for action

Ability to pull and replace pit plugs in required sequence

Ability to prime pits

Ability to identify system malfunction and to take action

Ability to rinse main sewer line

Ability to operate a pressure washer and perform periodic service

Ability to report odors beyond acceptable guidelines

Ability to follow safety procedures regarding hazardous gases

BLOCK D

STOCKMANSHIP

Trends: Animal care and protection form the heart of the industry and is a growing concern.

TASK 14 HANDLES STOCK.

Sub-task

14.01 Establishes pig groups.

Supporting Knowledge and Abilities

Knowledge of the pig grouping techniques

Knowledge of pig space requirements

Knowledge of *pig flow* requirements

Knowledge of barn flow requirements

Knowledge of growth and development requirements

Knowledge of pig behavior when regrouping

Ability to establish effective pig groups

Ability to assess size of the pigs

Ability to remove sick or injured animals from groups

Ability to determine the space available and appropriate stocking density

Ability to sort according to pre-determined priorities

Ability to count and divide

14.02 Moves animals.

Supporting Knowledge and Abilities

Knowledge of animal behavior when being moved

Knowledge of equipment and its appropriate use for herding pigs

Knowledge of hindrances to moving pigs

Knowledge of facility design requirements for pig handling

Ability to use moving equipment

Ability to select workable group size

Ability to take advantage of pig behavior when moving pigs

Ability to follow appropriate code of practices when moving animals

Ability to move pigs with minimal stress to pigs and workers

Ability to recognize and deal with frustrated pigs

Ability to remain calm during stressful situations

TASK 15 BREEDS SOW AND MONITORS PREGNANCY.

Sub-task

15.01 Detects estrus.

Supporting Knowledge and Abilities

Knowledge of the role of natural and synthetic hormones in the breeding process

Knowledge of effect of boar's presence on sow in heat

Knowledge of physical signs of estrus

Knowledge of estrus cycle

Knowledge of reproductive anatomy and physiology

Knowledge of heat detection procedures and equipment in barn

Knowledge of which sows require a heat check i.e., *gilts*, weaned sows and gestating sows

Ability to recognize signs of a sow in heat

Ability to determine which sows need to be heat detected

Ability to apply *boar exposure*

Ability to assess when the sow should be bred

Ability to maintain a heat detection routine

15.02 Selects breeding group.

Supporting Knowledge and Abilities

Knowledge of breeding targets

Knowledge of which sows are in heat

Knowledge of selecting physically sound gilts and sows

Knowledge of culling policy

Knowledge of *gilt pool* requirements

Ability to recognize sows in heat

Ability to assess physical condition of sows and gilts

Ability to cull according to barn protocol

Ability to meet breeding targets

Ability to assist in determining the gilt pool requirements

Ability to utilize gilt pool in meeting the breeding targets

Ability to select gilts for breeding

15.03 Co-ordinates breeding.

Supporting Knowledge and Abilities

Knowledge of estrus detection

Knowledge of courtship and mating behavior and procedures

Knowledge of breeding facility requirements and usage

Knowledge of boar usage

Knowledge of daily routine in breeding barn

Ability to organize breeding procedure

Ability to recognize sow and/or gilt in heat

Ability to follow recommended breeding procedure
Ability to move animals
Ability to ensure boar exposure during and after mating
Ability to clean breeding pens
Ability to ensure stress-free environment
Ability to record breeding information

15.04 Performs breeding.

Supporting Knowledge and Abilities

Knowledge of selecting pairs for natural or artificial breeding
Knowledge of artificial insemination equipment and procedures
Knowledge of semen handling
Ability to assist with natural breeding
Ability to select boar for natural breeding
Ability to perform artificial insemination
Ability to handle semen

15.05 Assesses breeding success.

Supporting Knowledge and Abilities

Knowledge of successful breeding process
Knowledge of timing of breeding
Knowledge of pregnancy detection equipment and procedures
Knowledge of ultrasound principles
Knowledge of pregnancy failure signs
Knowledge of the role of natural and synthetic hormones in the breeding process

Ability to recognize successful breeding
Ability to record breeding information
Ability to recognize and respond to breeding activity
Ability to identify and move sows that have returned
Ability to identify boar problems
Ability to detect heat on presumed pregnant sows
Ability to use pregnancy detection equipment
Ability to check visually for pregnancy
Ability to detect pregnancy failure

TASK 16 CARES FOR SOWS IN FARROWING BARN.

Sub-task

16.01 Cares for sows through the farrowing process.

Supporting Knowledge and Abilities

Knowledge of moving pregnant sows
Knowledge of gestation cycle length
Knowledge of breeding group location
Knowledge of visual signs of sow beginning the farrowing process
Knowledge of farrowing intervention techniques and associated barn policy
Knowledge of the farrowing process
Ability to determine due date from records
Ability to locate and move sows due to farrow from gestation barn to farrowing barn
Ability to recognize the onset of farrowing
Ability to identify farrowing difficulties
Ability to intervene according to protocol

Ability to determine the completion of farrowing

Ability to record farrowing information

16.02 Weans sows.

Supporting Knowledge and Abilities

Knowledge of *lactation* length as determined by barn protocol

Knowledge of pig flow schedule

Knowledge of moving weaned sows

Knowledge of specific work requirements on weaning day

Ability to determine weaning day

Ability to prepare for weaning sows

Ability to weigh sows

Ability to move weaned sows

Ability to follow work routine

TASK 17 CARES FOR BOARS.

Sub-task

17.01 Uses boars for breeding.

Supporting Knowledge and Abilities

Knowledge of boar handling techniques

Knowledge of boar development

Knowledge of training boars

Knowledge of breeding protocol

Knowledge of mating behavior

Ability to move boars

Ability to determine boar usage

Ability to train boars

Ability to assess boars physical capabilities for breeding

Ability to follow breeding protocol

Ability to assist boars

17.02 Performs boar specific husbandry.

Supporting Knowledge and Abilities

Knowledge of housing boars and space requirements

Knowledge of environmental factors affecting boar fertility

Ability to determine boar stall requirements

Ability to organize and manage groups of boars

Ability to assess boar's micro-environment and make necessary changes

TASK 18 CARES FOR PIGLETS IN FARROWING BARN.

Sub-task

18.01 Cares for piglet immediately after birth.

Supporting Knowledge and Abilities

Knowledge of colostrum requirements

Knowledge of piglet environment needs

Knowledge of barn's post-natal care policy

Knowledge of *teat* selection

Knowledge of newborn piglet behavior

Knowledge of sow's rearing ability

Ability to provide nurturing environment

Ability to determine if piglet has suckled and acquired colostrum

Ability to assess the well-being of the piglet and intervene as required

18.02 Processes piglets.

Supporting Knowledge and Abilities

Knowledge of piglet processing techniques

Knowledge of piglet processing protocol

Knowledge of piglet processing tools

Knowledge of handling piglets

Ability to clip teeth, castrate, inject iron, dock tails, treat navels, tattoo/notch ears

Ability to identify and report physical abnormalities

Ability to maintain processing schedule

Ability to weigh piglets

Ability to record required information

18.03 Fosters piglets.

Supporting Knowledge and Abilities

Knowledge of fostering principles and protocol

Knowledge of sow's rearing ability and corresponding piglet needs

Knowledge of *piggy deck* use

Knowledge of purpose for *nurse sows*

Ability to establish sow's rearing capacity

Ability to determine number of piglets to be fostered

Ability to foster according to piglets' needs

Ability to coordinate sow's rearing capabilities with piglets' needs

Ability to count and organize fostering procedure

Ability to record fosters

Ability to set-up piggy decks

Ability to prepare nurse sow

18.04 Weans piglets.

Supporting Knowledge and Abilities

Knowledge of weaning principles and procedures

Knowledge of piglet selection for weaning

Knowledge of moving piglets

Knowledge of weighing piglets

Knowledge of pig flow schedule

Knowledge of specific work requirements on weaning day

Ability to catch and handle piglets

Ability to count and track piglets

Ability to weigh piglets

TASK 19 CARES FOR THE GROWING PIG.

Sub-task

19.01 Sorts pigs.

Supporting Knowledge and Abilities

Knowledge of barn protocol for establishing groups

Knowledge of grouping priorities

Knowledge of special requirements of grouping

Ability to follow sorting protocol

Ability to assess size of pigs

Ability to determine the space available and appropriate stocking density

Ability to count and divide

19.02 Monitors pig growth.

Supporting Knowledge and Abilities

Knowledge of growth standards

Knowledge of anatomy and physiology of the growing pig

Knowledge of monitoring procedures

Knowledge of contingency plans

Knowledge of feed intake requirements

Knowledge of the impact of the barn environment on pig growth

Ability to weigh pigs and feed

Ability to compare actual performance to target

Ability to record and report performance

Ability to assist in correcting performance concerns

Ability to implement procedure changes

Ability to maintain an environment required for optimal growth

Ability to evaluate effectiveness of procedures

TASK 20 MARKETS PIGS

Sub-task

20.01 Selects pigs to market standards.

Supporting Knowledge and Abilities

Knowledge of desired product

Knowledge of production process

Knowledge of CQA requirements for shipping pigs

Knowledge of specifications determined by the client

Knowledge of barn's requirements for exporting pigs

Ability to catch and handle piglets

Ability to load piglets into boxes and/or onto truck

Ability to prepare piglets for shipment

Ability to cord shipment information

20.02 Ships pigs.

Supporting Knowledge and Abilities

Knowledge of bio-security requirements

Knowledge of loading requirements

Knowledge of transportation recommendations

Knowledge of moving pigs

Knowledge of pig identification procedures

Ability to identify pigs for shipping

Ability to load pigs on truck

Ability to maintain disease barrier at shipping

Ability to comply with CQA requirements for shipping pigs

BLOCK E

FEEDING AND WATERING

Trends: There is an increase in the application of electronics and technology in the feeding and watering of stock. There are also increasing advances in feed analysis and nutrition requirements.

TASK 21 **CONDITION SCORES STOCK.**

Sub-task

21.01 Determines stock's body condition score. Supporting Knowledge and Abilities

Knowledge of body condition scoring

Knowledge of back fat testing

Knowledge of pig nutrition

Knowledge of pig digestive system

Knowledge of energy input/output

Ability to rate sow's condition score

Ability to perform back fat testing

21.02 Adjusts feed allowance. Supporting Knowledge and Abilities

Knowledge of barn's feeding protocol

Ability to adjust feeders

Ability to monitor and re-assess body condition score

TASK 22 **FEEDS ACCORDING TO STRATEGY.**

Sub-task

22.01 Feeds gilts. Supporting Knowledge and Abilities

Knowledge of gilt growth and development

Knowledge of barn's feeding protocol

Knowledge of nutritional requirements

Ability to feed according to regimen

Ability to monitor feed quality

Ability to estimate animal's weight

Ability to observe gilt's condition

22.02 Feeds sows.

Supporting Knowledge and Abilities

Knowledge of nutritional requirements of sows

Knowledge of physiology of weaned, gestating and lactating sows

Knowledge of fetus development

Ability to monitor feed consumption

Ability to monitor feed quality

Ability to body condition score or back fat test

Ability to adjust feed as required for body condition

Ability to monitor behavior of sows

Ability to monitor sow's feces condition

Ability to record feed consumption for lactating sows

Ability to follow barn's feeding protocol

22.03 Feeds boars.

Supporting Knowledge and Abilities

Knowledge of boar growth and development

Knowledge of barn's feeding protocol

Knowledge of nutritional requirements

Ability to feed according to regimen

Ability to observe condition of boar and adjust feed accordingly

Ability to monitor boar appetite

Ability to monitor feed quality

Ability to estimate animal's weight

22.04 Feeds piglets.

Supporting Knowledge and Abilities

Knowledge of piglet growth and development

Knowledge of nutritional requirements

Knowledge of need for colostrum

Knowledge of barn's creep feeding protocol

Knowledge of production targets

Ability to maximize nutritional intake

Ability to administer colostrum

Ability to identify runts

Ability to follow barn's creep feeding protocol

Ability to monitor feed quality

22.05 Feeds growing pigs.

Supporting Knowledge and Abilities

Knowledge of growth and development of growing pigs

Knowledge of nutritional requirements

Ability to estimate weight

Ability to monitor pig behavior

Ability to keep feeders clean

Ability to feed according to strategy

Ability to monitor feed quality

TASK 23 OPERATES THE FEED AND WATER DELIVERY SYSTEM.

Sub-task

23.01 Monitors water flow rates. Supporting Knowledge and Abilities

Knowledge of water requirements

Knowledge of water quality

Knowledge of need for water

Ability to check and maintain water delivery system

Ability to check and adjust water flow rate

23.02 Checks wet or dry feeders.

Supporting Knowledge and Abilities

Knowledge of feed quality

Knowledge of feed delivery system

Ability to adjust feeders according to production stage and pig inventory

Ability to operate the feed delivery system

Ability to ensure feeders are working

Ability to ensure all animals are fed

APPENDICES

Appendix “A”

Tools and Equipment

Pork Production technicians commonly use the following tools and equipment:

A.I. Catheter	Pails
Air compressor	Pig snare
Backpack sprayers	Plastic ties
Barn files	Pliers
Bio-hazard container	Pregnancy Checker
Boards	Pressure washer
Brooms	Protective clothing
Brushes	Punch
Carts	Rags
Chains	Respirators
Computer	Ropes
Crow bar	Safety footwear
Dead cart	Safety glasses or goggles
Drills	Saws
Dust mask	Scales
Ear notcher	Scalpel
Ear tagger	Scissors
Euthanizing Tool	Scoops
Extension cords	Scraper
Eye Wash Station	Screwdriver
Files/rasps	Shovels
Fire extinguisher	Storage boxes
First aid kit	Semen collection container
Flashlight/Trouble light	Syringe
Generator	Tail docking equipment
Gloves	Tape
Grease gun	Tattoo equipment
Grinder	Teeth clipper
Hammer	Tool box
Hearing protection device	Towels
Ladder	Vermin traps
Marker	Vacuum
Measuring tape	Water hose
Microscope	Wheel barrow
Nails	Winch
Needle-less injection units	Wire
Obstetrical glove	Wrench
Office supplies	

Appendix “B”

Glossary

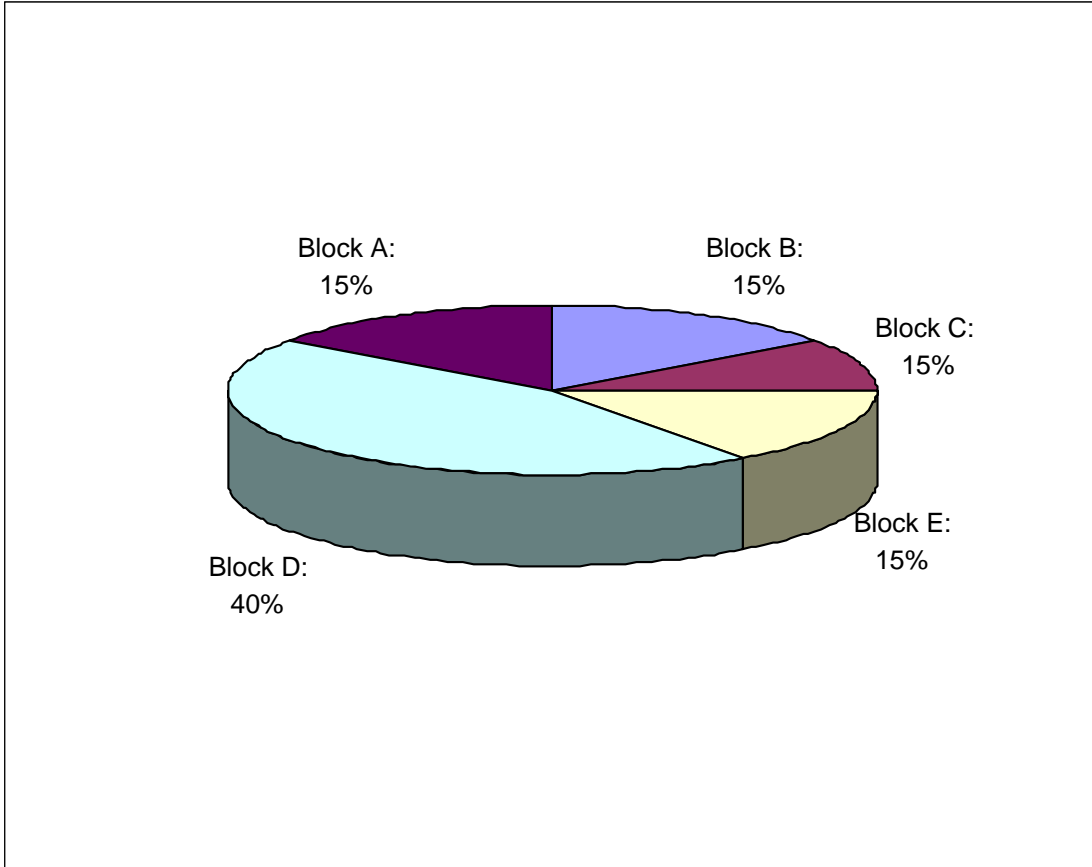
Animal Care Assessment (ACA)	Administered as part of CQA, ACA is a system of documenting animal welfare practices in the hog production industry.
Bio-security	Measures used to protect a herd against the introduction or the spread of disease.
Boar exposure	Nose-to-nose contact between the sow and boar.
Breed	Producing pigs from existing ones in order to produce animals with particular characteristics.
Canadian Quality Assurance (CQA)	A system of requirements administered by the Canadian Pork Council and provincial representatives to ensure effective hog production and food safety procedures in farm operations.
Cull	Removing animal from the herd due to inability to produce according to standard.
Disinfection	Cleanse of disease causing organisms.
Disease barrier	Physical barrier in facility used to protect pig from disease transfer.
Drug residue	Medicinal substance, what is left over or remains in body tissues.
Dunging	Act of excreting manure from pig's body.
Estrus	The period of sexual receptivity in the female.
Equilibriate	Make or become equal, uniformity.
Farrow	Giving birth.
Finishing pig	A pig being raised from 22 kg. (50 lbs.) to market weight.

Foster	Transferring piglets from the mother sow to another lactating sow.
Gilt	Female pig that has not farrowed.
Gilt pool	Group of gilts being prepared for breeding.
Lactation	Period in which sow is producing milk for piglets.
Libido	The sexual urge.
Mortalities	Dead livestock.
Not In Pig (NIP) (Negative Sow)	Sows that go full-term (presumed pregnant) and do not farrow.
Nurse sow	A sow being used to feed foster piglets after her piglets have been weaned and transferred.
Nursery pig	Pig being raised from weaning to 22 kg. (50 lbs.).
Open sow	Group housing of pregnant sows that allow them free movement.
Oxytocin	The hormone in sows which triggers uterine contractions during the farrowing process and/or breeding process.
Physiology	Science of the functions of living organisms and their parts.
Piggy deck	Self-contained pen for piglets (also known as piggy barrel or crèche).
Pig flow	Organized and planned pig movement through the barn based on facility capacity.
Pig-free	People having no contact with pigs during a specified time period.
Recommended Code of Practice for the Care and Handling of Animals: Pigs	Government of Canada guidelines for use in the hog industry to promote high standards in the welfare, care and handling of pigs.
Return	A sow re-served after a previous unsuccessful service.

Safe Operating Guidelines (SOG)	Generally accepted minimum standards of safe practices in the operation of tools and equipment.
Safe Operating Procedures (SOP)	A step-by-step instruction for doing a job or task the right way.
Safe Work Procedures (SWP)	The mandatory steps, equipment and procedures used in order to work safely in a specific workplace.
Suckling pig	Piglet that is nursing on a sow.
Teat	Mammary nipple.
Vermin	Injurious animals, parasites, for example mice, rodents, insects and birds.
Weaning pig	A piglet being removed from sow and transferred to nursery where they begin to eat solid food.

Appendix “C”

Block Percentages



Titles of Blocks

Block A	Occupational Skills
Block B	Pig Health Care
Block C	Barn Environment
Block D	Stockmanship
Block E	Feeding and Watering

The average number of questions, derived from the collective decision make by workers within the occupation from all areas of the province, which will be placed on a one-hundred question provincial examination to assess each block of the analysis.

Appendix “D”

PORK PRODUCTION TECHNICIAN Task Profile Chart

BLOCKS	TASKS	SUB-TASKS					
A Occupational Skills	1. Follows bio-security protocol.	1.01 Follows barn entry procedure.	1.02 Follows transportation protocol.	1.03 Follows quarantine procedures.	1.04 Maintains disease barrier.		
	2. Works co-operatively in team environment.	2.01 Shares in housekeeping chores.	2.02 Prioritizes work tasks.	2.03 Assists where needed.	2.04 Communicates with co-workers and supervisors.		
	3. Follows basic safety practices.	3.01 Performs CPR.	3.02 Performs basic first aid.	3.03 Follows WHMIS regulations.	3.04 Follows barn's confined space protocol.	3.05 Follows emergency response plan.	
		3.06 Follows barn's safety protocol.	3.07 Practices safe work habits.				
	4. Follows quality assurance requirements.	4.01 Demonstrates a knowledge of the Canadian Quality Assurance (CQA) Program.	4.02 Follows barn's procedures for quality assurance.				
	5. Maintains records.	5.01 Records pig events.	5.02 Records pig inventory.	5.03 Records inventory of supplies.			
6. Assists in improving production performance.	6.01 Compares actual performance with production targets.	6.02 Assists in determining improvements.	6.03 Implements revised procedures.				

BLOCKS	TASKS	SUB-TASKS				
B Pig Health Care	7. Follows health protocol.	7.01 Sanitizes health and treatment equipment.	7.02 Follows pig health care procedures.	7.03 Euthanizes following employers' policy.		
	8. Assesses animal health.	8.01 Identifies characteristics and behavior of healthy pig.	8.02 Identifies characteristics and behavior of unhealthy or injured pig.	8.03 Monitors pig's physical condition.	8.04 Determines when intervention is required.	
	9. Administers and handles animal health products.	9.01 Uses appropriate animal health product administration technique.	9.02 Adheres to drug withdrawal times.	9.03 Stores and handles animal health products.		
	10. Disposes of mortalities.	10.01 Follows carcass disposal policy.	10.02 Removes carcass from barn.			
C Barn Environment	11. Performs basic maintenance.	11.01 Performs regular barn inspections.	11.02 Follows preventative maintenance schedule.	11.03 Identifies facility hazards.	11.04 Performs minor repairs.	11.05 Organizes tools and equipment.
		11.06 Uses power and hand tools.				
	12. Maintains and monitors heating/cooling and ventilation systems.	12.01 Sets the heating/cooling and ventilation program.	12.02 Monitors temperature and air quality.	12.03 Checks system components.	12.04 Identifies system malfunctions.	12.05 Reports/repairs malfunctions according to employer's policy.
	13. Maintains sanitation standards for the facility.	13.01 Performs general cleaning.	13.02 Prepares for arrival of new pigs.	13.03 Performs a clean out routine and operates manure handling system.		

BLOCKS	TASKS	SUB-TASKS				
D Stockmanship	14. Handles stock.	14.01 Establishes pig groups.	14.02 Moves animals.			
	15. Breeds sow and monitors pregnancy.	15.01 Detects estrus.	15.02 Selects breeding group.	15.03 Co-ordinates breeding.	15.04 Performs breeding.	15.05 Assesses breeding success.
	16. Cares for sows in farrowing barn.	16.01 Cares for sows through the farrowing process.	16.02 Weans sows.			
	17. Cares for boars.	17.01 Uses boars for breeding.	17.02 Performs boar specific husbandry.			
	18. Cares for piglets in farrowing barn.	18.01 Cares for piglet immediately after birth.	18.02 Processes piglets.	18.03 Fosters piglets.	18.04 Weans piglets.	
	19. Cares for the growing pig.	19.01 Sorts pigs.	19.02 Monitors pig growth.			
	20. Markets pigs.	20.01 Selects pigs to market standards.	20.02 Ships pigs.			

BLOCKS	TASKS	SUB-TASKS				
E Feeding and Watering	21. Condition scores stock.	21.01 Determines stock's body condition score.	21.02 Adjusts feed allowance.			
	22. Feeds according to strategy.	22.01 Feeds gilts.	22.02 Feeds sows.	22.03 Feeds boars.	22.04 Feeds piglets.	22.05 Feeds growing pigs.
	23. Operates the feed and water delivery system.	23.01 Monitors water flow rates.	23.02 Checks wet or dry feeders.			