



NPTC

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**LEVEL 3
CERTIFICATE OF COMPETENCE
IN
MILKING AND DAIRY HYGIENE**

ASSESSMENT SCHEDULE

LEVEL 2 CERTIFICATE OF COMPETENCE in MILKING AND DAIRY HYGIENE

Candidate Information

Introduction

The scheme will be administered by the NPTC.

NPTC will:

- Publish - scheme regulations
 - assessment schedule
 - assessment material
- Approve centres to co-ordinate and administer the scheme
- Set standards for the training of Verifiers and Assessors
- Recruit, train and deploy Verifiers
- Manage verification
- Issue certificates to successful Candidates

The Certificate of Competence

Certificates of competence will be awarded to Candidates who achieve the required level of competence in the Units to which their Certificate relates.

Instruction

Attendance at a course of instruction is not a pre-requisite for an application for an assessment but potential Candidates are strongly advised to ensure that they are up to the standards that will be expected of them when they are assessed.

NPTC does **not** hold a register of instructors; however instruction will normally be available from recognised training providers and/or centres of further or higher education active in the areas covered by this certificate. Further information on training may be obtained from the Assessment Centre.

Access to Assessment

Assessment Centres will be responsible for arranging assessment on behalf of a Candidate. Assessment may only be carried out by an Assessor approved by NPTC for that scheme. Under no circumstances can either instructors involved in the preparation of candidates, or the candidates work place supervisors, or anyone else who might have a vested interest in the outcome, carry out the assessment.

The minimum age limit for Candidates taking certificates of competence is 16 years. There is no upper age limit.

Assessment

Assessment is a process by which it is confirmed that the Candidate is competent in the Units within the award to which the assessment relates. It is a process of collecting evidence about his/her capabilities and judging whether that evidence is sufficient to attribute competence.

The candidate must be registered through an NPTC approved Assessment Centre for this qualification prior to assessment.

The result of the assessment will be recorded on the candidate assessment report form.

The schedule of assessment contains the performance criteria relating to:

- Observation of practical performance
- Assessment of underpinning knowledge

Performance Evaluation

The result of each assessment activity is evaluated against the following criteria:

- 4 = Meets or exceeds the assessment criteria by displaying a level of practical performance and/or underpinning knowledge, with no 'minor' or 'critical' faults. (Competent).
- 3 = Meets the requirements of the assessment criteria for both the practical performance and the underpinning knowledge, with some 'minor' faults but no 'critical' faults. (Competent).
- 2 = Does not fully satisfy the requirements of the assessment criteria, being unable to perform the practical task satisfactorily or being deficient in underpinning knowledge leading to the recording of minor faults. (Not yet competent).
- 1 = Does not satisfy the requirements of the assessment criteria, being unable to perform the practical task satisfactorily or safely or being deficient in underpinning knowledge leading to the recording of a critical fault. (Not yet competent).

A list of registered Assessment Centres is available from NPTC. (www.nptc.org.uk)

Verification

Verification is a process of monitoring assessment; it is an essential check to confirm that the assessment procedures are being carried out in the way that NPTC has laid down. The overall aim of verification is to establish a system of quality assurance that is acceptable in terms of both credibility and cost effectiveness.

Approved Assessors will be subject to a visit by the verifier at a time when assessments are being undertaken.

A selection of assessment reports completed by the assessor will be evaluated by an NPTC approved verifier.

Compliance with the verification requirements is a pre-requisite for Assessors remaining on NPTC's list of approved assessors.

Complaints and Appeals

NPTC and its Assessment Centres have a formal Complaints and Appeals procedure. In the event of any dissatisfaction with the arrangements and conditions of assessment, the candidate should first contact the Assessment Centre through whom the assessment was arranged and submit the complaint in writing.

For further information on NPTC's Equal Opportunities Policy and Complaints and Appeals Procedures, please refer to www.nptc.org.uk

Learning Outcomes

The candidate will be able to:

1. Operate and comply with the legislative and welfare requirements which apply to themselves, other people, the environment when preparing to milk dairy cattle
2. Undertake routine inspection/maintenance activities when preparing to milk dairy cattle
3. State the knowledge and understanding relating to milking and dairy hygiene
4. Operate and comply with the legislative and welfare requirements which apply to themselves, other people, the environment when milking and treating dairy cattle
5. Undertake routine inspection of milk when milking dairy cattle
6. Operate and comply with the legislative and welfare requirements which apply to themselves, other people, the environment when cleaning down equipment and a milking parlour
7. Undertake tasks associated with day to day cleaning of milk systems and parlour
8. State the knowledge and understanding relating to cleaning milking equipment and maintaining records

Guidance Notes for Candidates and Assessors

The pre requisite for this qualification is the NPTC Level 1 Certificate of Competence in Basic Stockmanship and Welfare.

The assessment is divided in to three compulsory units:

Unit 1 – Prepare for Milking

Unit 2 – Milk and Treat Cows

Unit 3 – Clean Down Milking System and Parlour

Candidates must achieve all Assessment Activities in all three units.

Safe Practice

Appropriate PPE must be worn at all times. (It is a statutory requirement that a clean, washable overall and head covering are worn).

All equipment must be operated in such a way that the Candidate, Assessor,

other persons, animals or other equipment are not endangered.

If these conditions are not observed this will result in the Candidate not meeting the required standard.

It is recommended that suitable barrier creams are used when necessary.

Validation of Equipment

A Manufacturer's instruction book or other operator's manual should be available.

Any appropriate type of milking parlour and associated equipment complying with legal requirements is acceptable for the assessment, provided it is suitably equipped for **all** assessment activities to be carried out.

Additional Information

May be sought from relevant welfare codes, manufacturers' operator's manuals or any other appropriate training or safety publication.

Animal Welfare

Throughout this assessment a high emphasis is placed on animal welfare, which will underpin the whole of this qualification.

The "Five Freedoms" and their interpretation by the RSPCA appear at the back of this schedule.

During their assessment, candidates are reminded that they should carry out all the activities to comply with the animal welfare codes.

Unit 1 – Prepare for Milking	
Assessment Activity	Assessment Criteria:
1 Demonstrate knowledge of sources of risk to herds-people.	<ul style="list-style-type: none"> - Zoonotic diseases - Physical injuries - Dust containing moulds - Dairy chemicals
Demonstrate knowledge of a zoonotic disease which could be caught (by humans) from the following sources of infection i) Dung and Urine ii) Teats iii) Physical contact with animals iv) At calving time	<ul style="list-style-type: none"> - Salmonella, Leptospirosis from dung and urine - Orf, Blackspot from teats - Ringworm from animal - Brucellosis from calving and infected milk
Demonstrate knowledge of potential sources of diseases to animals .	<ul style="list-style-type: none"> - From contaminated water - Domestic and wild animals - Dirty milking equipment - From contaminated/mouldy feed - From rodent pests - From sick/diseased animals
Demonstrate knowledge of ways in which a herds person can minimise risk of infection	<ul style="list-style-type: none"> - Wearing correct Personal Protective Equipment (PPE) - Maintaining a high standard of personal hygiene - Regular and thorough cleaning and disinfection of: <ul style="list-style-type: none"> • Milking parlour • Milking equipment • Milk handling areas • Cow accommodation - Regular cattle health checks - Implementing a cattle health maintenance programme
2 Carry out <ul style="list-style-type: none"> • Daily • Weekly checks and routine maintenance of milking equipment.	<ul style="list-style-type: none"> - Identify equipment to be checked - Establish that equipment is isolated from power supply <p>Check on a daily basis:</p> <ul style="list-style-type: none"> - Top up oil level in vacuum pump lubricator if required - Tension of "V" belts - All connection points - For air leaks of pulse and milk tubes - The claw piece air bleed is not blocked or enlarged - For faults in liners - Teat cup assembly - Bulk tank ice bank <p>Maintain on a weekly basis:</p> <ul style="list-style-type: none"> - Milk pipeline and recorder jar systems for leaks and deterioration, especially rubber connections - Interceptor vessel for milk residues - Strip down and reassemble regulator
3. Demonstrate knowledge of reasons why the 6 month/12 month independent manufacturer's inspection of the milking plant is an advantage.	<ul style="list-style-type: none"> - Ensures that plant is functioning - Worn parts identified and replaced - Written report produced - Sources of potential breakdowns identified - Identifies components that need replacing/servicing - Ability to produce pulsation graph and table
4. Prepare milking equipment for milking Check and comment on three items that would be inspected to show that the milking parlour/equipment is functioning correctly	<ul style="list-style-type: none"> - Identify and set all controls in the milking position - Prepare bulk tank and milk filter for milking <p>Check that:</p> <ul style="list-style-type: none"> - vacuum gauge reading is at level recommended for make of machine - vacuum regulator is functioning - pulse speed rate is appropriate for the machine

Unit 2 – Milk and Treat Cows	
Assessment Activity	Assessment Criteria:
<p>1. Assemble, prepare and milk a whole herd, with a minimum of four cycles, and disperse correctly</p>	<p>The candidate will be expected to:</p> <ul style="list-style-type: none"> - Control and manage the herd - Check for and identify signs of clinical mastitis - Take action to deal with clinical mastitis - Adjust personal approach and technique to each individual cow - Operate a work routine related to the installation and statutory buyer requirements - Milk three cows per unit <p>Prepare teat for milking</p> <ul style="list-style-type: none"> - Take foremilk into receptacle or suitable area on floor, examine and wash away foremilk - Place cluster on clean, dry teats and avoid either undue intake with air or contact of teat cups with floor and legs of cow - Manage milking to avoid teat cup creep, excessive stripping or over milking - Check each quarter is milked out - Disinfect teats of all cows immediately after removal of clusters <ul style="list-style-type: none"> - Check for drop in temperature of bulk tank contents at conclusion of milking - Check collection ticket left by tanker driver: <ul style="list-style-type: none"> • Quantity of milk • Temperature of milk - Record details of any cows with: <ul style="list-style-type: none"> • Mastitis • Not healthy • Reduced milk yield
<p>2. Demonstrate knowledge of techniques used in controlling and preventing spread of mastitis</p>	<ul style="list-style-type: none"> - Dry cow therapy - Cull chronically infected cows after discussion with veterinary surgeon - Effective milking plant testing and maintenance - Correct antibiotic treatment of infected cows - Washing udders and teats with a spray of water and approved disinfectant - Using individual disinfectant udder wipes/cloths to wash udders and teats - Drying teats thoroughly before starting to milk - Wearing suitable (latex disposable) gloves as a precaution - Recording individual milk yield, cell counts and clinical cases of mastitis - Using inline mastitis detectors - Milk clinical cases last where practical, otherwise flush water and disinfectant through cluster onto the floor - Disinfecting teats after every milking - Discarding milk for appropriate period - Using approved disinfectant on teats before milking - Preventing cows from entering in to lying area for 30 minutes after milking - Treating infected cows as instructed by veterinary surgeon - Using techniques to keep cows clean prior to entry to the milking parlour
<p>3. Carry out the preparation and treatment of a teat for intra mammary infusion</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>This activity to be done only if there is a case needing treatment, otherwise complete procedure up to the phase prior to the insertion of the tube in to the teat orifice</p> </div>	<ul style="list-style-type: none"> - Identify cow to be treated - Identify infect quarter to be treated - Check that the veterinary medicine to be used is correct - Restrain cow - Clean teat thoroughly - Milk out infected quarter completely - Disinfect the teat - Insert the veterinary medicine into the teat - Massage teat and quarter to ensure effective dispersal of the veterinary medicine - Maintain a high standard of hygiene throughout - Identify and record details of treatment accurately - Identify and record end date of 'withdrawl' period - Dispose of contaminated milk - Dispose of used veterinary medicine containers
<p>4. Take a clean milk sample from a teat of a cow</p>	<ul style="list-style-type: none"> - Identify teat to provide milk sample - Clean teat - Disinfect teat end - Discard foremilk - Avoid contamination with dirt from udder/legs - Draw milk sample in to sterile bottle - Label sample bottle (cow, quarter, date, name of farm) - Record details of sample taken accurately

Unit 3 – Clean Down Milking System & Parlour	
Assessment Activity	Assessment Criteria:
<p>1 Set, clean and reset milking equipment for:</p> <p>Either</p> <p>a) bucket plant</p> <p>OR</p> <p>b) Pipeline or recorder jar (Circulation cleaning)</p> <p>OR</p> <p>c) Pipeline (Acidified boiling water cleaning)</p>	<ul style="list-style-type: none"> - Select correct cleaning chemicals to be used - Select correct cleaning brushes to be used - Prepare detergent-sanitiser ensuring that concentration and temperature are correct - Rinse thoroughly all bucket interior - Remove clean and store pulsators - Immerse and clean thoroughly all milking cluster components <ul style="list-style-type: none"> • Teat cups • Liners • Clawpieces • Sight glasses • Lid tops and rims • Bucket shoulders - Check physical condition of teat line and establish serviceability - Store milking components - Clean and store cleaning brushes - Ensure all controls are in the washing position - Wash the outside of clusters and rubber pipe line - Remove milk line from bulk tank - Remove and check milk filter - Use the correct sequence of cleaning <ul style="list-style-type: none"> • Pre rinse • Main wash • Final rinse - Add water at the correct temperature with correct amount of detergent-sanitiser - Circulate cleaning solution for correct amount of time - Check solution flows throughout the complete pipeline - Drain all parts of plant at end of washing sequence - Ensure all controls in the washing position - Wash outside of the cluster and rubber pipeline - Remove milk line from bulk tank - Remove and check milk filter - Run boiling water through plant - Add acid to the water flow in first 2-3 minutes - Clean for correct amount of time - Use a hypochlorite solution once a week - Awareness of risks associated with using hypochlorite solution
<p>2. Clean the Milking parlour and Outside surfaces of milking plant</p>	<ul style="list-style-type: none"> - Select and check that tools and equipment are safe to use - Identify areas/items to be cleaned - Clean and wash thoroughly milking parlour: <ul style="list-style-type: none"> • Walls • Floors • Operator pit • Fittings - Milking plant surfaces <ul style="list-style-type: none"> • Rubber tubes • Components - Dispose of waste water - Clean and store tools and equipment
<p>3. Demonstrate knowledge of factors which can adversely affect the hygienic quality of milk</p>	<ul style="list-style-type: none"> - Unhealthy, sick or diseased cows - Aborted cows - Cow calving early after using 'Dry Cow' therapy - Contamination with chemical - Contamination with dung and urine - Dirty buildings, equipment, cows - Treatment of cows with drugs and medicines and failing to observe the correct duration of the 'withdrawal period'

Unit 3 Clean Down Milking System & Parlour	
Assessment Activity	Assessment Criteria:
<p>4. Demonstrate knowledge of</p> <p>Potential sources of environmental pollution</p> <p>Methods of preventing pollution</p>	<ul style="list-style-type: none"> - Milk - Chemical substances - Dirty water - Empty chemical containers - Slurry/FYM - Spreading on suitable land away from water courses - Using licensed waste disposal contractor - Storing in a slurry pit or tank - Disposing of waste materials and unused cleaning material solutions - Storing unused cleaning materials - Cleaning and storing tools and equipment - Disposing of empty containers
<p>5. Identify the areas of a bulk tank most likely to have milk residue left after emptying/washing</p> <p>Demonstrate knowledge of the cleaning procedure for the vacuum line and sanitary trap</p>	<p>Likely components identified:</p> <ul style="list-style-type: none"> - Outside surfaces - Agitator and dip stick - Thermometer outlet plug - Underside of bridge lid - Re-useable milk filter - The end wall particularly of a Direct Expansion tank <p>Carry out safety checks:</p> <ul style="list-style-type: none"> • Cut off valves in place before cleaning starts <ul style="list-style-type: none"> - Wash vacuum line - Use correct cleaning solution - Use correct volume - Use logical procedure - Drain after cleaning - Dispose of cleaning solution
<p>6. Demonstrate knowledge of the responsibilities of the milk tanker driver when collecting milk</p>	<ul style="list-style-type: none"> - Ensure cleanliness of delivery pipe - Check temperature of milk - Take milk sample - Transfer milk to tanker - Swill out tank or set automatic bulk tank cleaning process - Leave milk ticket in an agreed place
<p>7. For the dairy herd demonstrate knowledge of each of the following records to be maintained:</p> <p>Administration of a veterinary medicine to a cow</p> <p>Herd management</p> <p>Milk produced</p>	<ul style="list-style-type: none"> - Cow name/number - Date of treatment - Drug used - Withdrawal period date end usage - Veterinary medicines usage as per NOAH (National Office of Animal Health medicines book) - Insemination/service dates - Calving dates (expected and actual) - Calving details - Dry period (date of commencement) - Concentrate usage - Medicines/drugs used - Veterinary treatments - Health maintenance - Volume of milk produced/lactation - Total bacterial count/Bactoscan - Somatic cell counts - Antibiotic levels - Temperature

The Five Freedoms

The 'Five Freedoms' as defined by the Farm Animal Welfare Council, define ideal states, but provide a comprehensive framework for animal welfare on farm, in transit and at the place of slaughter.

They are:

- **Freedom from fear and distress**
- **Freedom from pain, injury and disease**
- **Freedom from hunger and thirst**
- **Freedom from discomfort**
- **Freedom to express normal behaviour**

What the Five Freedoms mean:-

FREEDOM from fear and distress by providing conditions and care, whether on farm, in transit or at the abattoir, which avoid mental suffering. For instance, staff involved in handling livestock need to be aware of the welfare problems associated with animal handling and understand the behaviour characteristics and likely reactions of the species in question, so that potentially stressful events such as loading/unloading and moving animals can be carried out quietly and calmly.

FREEDOM from pain, injury and disease by prevention or rapid diagnosis and treatment. The design of accommodation for farm animals should be such that a high or regular occurrence of injury and disease as the consequence of poorly designed facilities is avoided. Stock-keepers should be sufficiently skilled and alert to detect incidents of injury and disease early, to act appropriately to reduce or avoid them in future.

FREEDOM from hunger and thirst by providing ready access to fresh water and a diet to maintain full health and vigour. Feed must be satisfying, appropriate for the species/age of animal and safe. Other measures (such as minimizing bullying and competition at feed time by ensuring appropriate placement and numbers of feeders/drinkers) should also be employed to achieve this 'freedom'.

FREEDOM from discomfort by providing an appropriate environment including shelter and a comfortable resting area. The provision of a safe, clean, dry bedded lying area helps to achieve this and space allowances should ensure that all animals have adequate space to lie comfortably, groom themselves, get up and get down easily without injuring themselves or others. The design of flooring and unbedded areas along with drainage and manure handling should be such that they do not result in injuries or diseases of the feet.

FREEDOM to express normal behaviour by providing sufficient space, proper facilities and company of the animals' own kind. The proven needs of different species of animals must be met. For example, the provision of straw bedding of other material for manipulation for pigs, can not only provide a comfortable lying place, but also enriches a potentially barren environment by providing an opportunity for pigs to satisfy their strong instinct for exploration, rooting behaviour and play. Allowing expression of natural behaviour helps to reduce the occurrence of unnatural, potentially harmful behaviours and improves mental wellbeing.