

Title	Collect microbiological samples from animals, and culture or plate out according to sample		
Level	5	Credits	20

Purpose	People credited with this unit standard are able to: collect bacteriological, fungal, and yeast samples; carry out procedures for detecting bacteria; carry out procedures for detecting fungus and yeast; collect, transport, and identify facial eczema spores; and maintain workplace, and safety of workplace and self, in the course of duties.
----------------	--

Classification	Animal Care and Handling > Animal Care
-----------------------	--

Available grade	Achieved
------------------------	----------

Guidance Information

- For credit, evidence must be in accordance with the statutory and industry requirements contained in the following documents.

For credit, evidence must be in accordance with the statutory and industry requirements contained in the following documents.

Relevant and current National Animal Welfare Advisory Committee (NAWAC) Codes of Welfare and Codes of Recommendations and Minimum Standards, available at <http://www.maf.govt.nz>, under animal welfare.

Relevant New Zealand Veterinary Association (NZVA) standards, available from NZVA, PO Box 11-212, Manners Street, Wellington (<http://www.vets.org.nz>) including the current versions of *Standard Procedures for Veterinary Nursing and Animal Care* (referred to in this unit standard as *standard procedures*) and *BESTPRACTICE™ Companion Animal Practice Standards*.

New Zealand Standard NZS 4304:2002 *Management of Healthcare Waste*.

Animal Welfare Act 1999, Health and Safety in Employment Act 1992, and any subsequent amendments.
- In-house procedures* refer to the documented policies and procedures for animal care, handling, and ethical behaviour codes required by the employer.
- Underpinning Knowledge**

The following areas of knowledge underpin performance of the elements in this unit standard:

Outcome 1

 - Causes of false results as a consequence of collection method
 - Reasons why surrounding areas should not be touched when taking a swab
 - Purpose and types of transport medium in storage of bacteriological sample
 - Freezing samples

Outcome 2

Reagents for staining

Colour of stain in relation to cell wall

Methods of staining

Reasons for culture

Conditions required for bacterial culture growth

Methods of plating out and morphology of colonies

Role of nutrient agar, reasons for use of different types

Aerobic and anaerobic cultures

Outcome 3

Conditions for and changes during fungal incubation

Duration which samples should be kept for prior to disposal

Difference between colonies of bacteria on agar plates and contaminants (yeast, fungus)

Techniques for sterilising equipment used

Outcome 4

Routine care, cleaning, daily maintenance of microscope

Types of bacteria which can be identified.

Outcomes and performance criteria**Outcome 1**

Collect bacteriological, fungal, and yeast samples.

Performance criteria

- 1.1 Equipment is assembled, site prepared, and animal restrained without causing undue stress to animal, to allow sample to be collected by veterinarian.
- Range joint fluid and transudate, lung exudate, cerebro-spinal fluid, synovial fluid, fluid from thoracic/abdominal and pericardial cavity.
- 1.2 Sample is collected ensuring it is free from contamination from equipment and surrounding area, of sufficient quantity for testing, and to prevent drying out.
- Range ears, eyes, skin, abscess/wounds, throat, rectum, urinary tract, nasal, vaginal.
- 1.3 Sample is labelled and stored in sterile container in conditions which prevent deterioration.

Outcome 2

Carry out procedures for detecting bacteria.

Performance criteria

- 2.1 Sample material is prepared and stained for direct smear to allow visibility of bacteria for identification under microscopic examination.
- Range direct samples, after primary culture.
- 2.2 Colour and appearance of bacteria are identified with Gram stain according to standard procedures, and results are recorded according to in-house procedures.
- Range Gram positive bacilli, Gram positive streptococci, Gram positive staphylococci, Gram positive diplococci, Gram negative bacilli, Gram negative cocci.
- 2.3 Swabs are plated across agar and incubated according to standard procedures, to obtain colonies of bacteria which are individual and enable further culture and identification.
- 2.4 Antibiotic sensitivity test is carried out according to standard procedures to determine sensitivity of bacteria to specific antibiotics, and results are recorded according to in-house procedures.
- Range sensitive, resistant.
- 2.5 Equipment and plates are decontaminated after use in a manner which prevents spread of infection or cross-contamination.

Outcome 3

Carry out procedures for detecting fungus and yeast.

Performance criteria

- 3.1 Sample is collected using method according to type of sample and test required.
- Range hair, skin scraping, swab, crop swab, vaginal, aural, oral.
- 3.2 Samples are prepared on slides for examination for presence of hyphae or spores according to standard procedures, and results of examination are recorded according to in-house procedures.
- 3.3 Sample is prepared for fungal culture by inoculating agar and incubated to promote fungal growth for further examination and identification according to standard procedures.
- 3.4 Sample is transported and handled in a manner which avoids damage to sample and culture.

Outcome 4

Collect, transport, and identify facial eczema spores.

Performance criteria

- 4.1 Grass samples are collected from suspect paddock, and transported to veterinary clinic in a manner which ensures the sample does not deteriorate.
- 4.2 Sample is prepared and examined to detect presence and numbers of spores according to standard procedures, and results are recorded and reported to the veterinarian according to in-house procedures.

Outcome 5

Maintain workplace, and safety of workplace and self, in the course of duties.

Performance criteria

- 5.1 Designated working area, kept specifically for the purpose, is clean and organised to prevent contamination in accordance with NZVA Companion Animal Practice Standards.
- 5.2 Special wastes are bagged in safety approved polythene bags and disposed of according to workplace health and safety protocol.
- 5.3 Quality control measures are followed, in accordance with diagnostic test specifications, to ensure accurate results.

Range records, equipment, reagents, technical integrity.
- 5.4 Protective clothing and disposable gloves are used throughout the process where there is a known or suspected personal safety risk in accordance with NZVA Companion Animal Practice Standards.
- 5.5 Safe working practices are adopted according to practice policies on all matters of health and safety according to the Health and Safety in Employment Act 1992 and workplace safety plan.
- 5.6 Stocks of laboratory supplies are checked and re-ordered according to in-house procedures.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	8 August 1996	31 December 2022
Revision	2	16 December 1996	31 December 2022
Revision	3	16 November 1998	31 December 2022
Revision	4	7 June 2000	31 December 2022
Rollover and Revision	5	25 June 2007	31 December 2022
Review	6	22 October 2020	31 December 2022

Consent and Moderation Requirements (CMR) reference	0228
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.