



For more information on the three featured tests, PT/EQA schemes or any other testing requirements please visit our website:

[www.vla.gov.uk](http://www.vla.gov.uk)

or contact VLA Luddington using the details listed below.



**VLA Luddington**

Luddington, Stratford-upon-Avon

Warwickshire CV37 9SJ

Telephone: +44 (0)1789 750212

Fax: +44 (0)1789 750281

Email: [luddington@vla.defra.gsi.gov.uk](mailto:luddington@vla.defra.gsi.gov.uk)

*Safeguarding public and animal health*

VLA is an Executive Agency of the Department for  
**Environment, Food & Rural Affairs**

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## Animal Feed Testing



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# Why does animal feed need testing?



Bovine Spongiform Encephalopathy (BSE) has been linked to the feeding of mammalian meat and bone meal to cattle. As a result of this practice, legislation was introduced to ban the feeding of some processed animal proteins (PAPs) to animals to act as an important control measure preventing the spread of Transmissible Spongiform Encephalopathies (TSEs).

*PAPs include:*

**Meat meal**

**Hydrolysed proteins**

**Bone meal**

**Dried greaves**

**Blood meal**

**Dried plasma**

**Hoof meal**

**Poultry offal**

**Feather meal**

**Blood products**

**Fish meal**

**Horn meal**



## Tests

VLA offers three diagnostic tests to support the existing quality monitoring and to provide reassurance on the integrity of rations and feed ingredients.

# 1

### Microscopic Analysis Test (MAT)



This test is based on the microscopic examination of ground feed samples **for physical structures of heat-treated and non heat-treated animal material**. These structures include muscle fibres, animal or fish bone fragments, cartilage, horn, hair, blood, feathers and fish scales.

# 2

### Real-Time Polymerase Chain Reaction (PCR)



This assay exploits the **thermal stability of DNA from bovine, ovine, porcine and/or avian origin as a marker to detect prohibited animal materials within a feed matrix**.

The 'Real-Time' PCR enables accumulated PCR product to be detected in 'real-time' through the use of fluorescent dyes. The advantages of this procedure are that it is rapid, highly sensitive and specific. Also, test controls and an internal control are included with every sample.

# 3

### Counter Immuno Electrophoresis (CIE)



This technique detects **non heat-treated or low heat-treated proteins (such as blood products) and identifies the species of the uncooked or partially processed meat, tissue or blood sample**.

Using electro-osmosis, oppositely charged antibodies and proteins are brought together. If the antigen and antibody match then a precipitate is formed, which when stained, forms a visible line indicating a positive result.

## Quality

All the tests carried out in VLAs Feed Analysis Unit are fully accredited to the United Kingdom Accreditation Service (UKAS) to ISO17025.



## Traceable test control

VLAs Feed Analysis Unit maintains an archive of traceable meat and bone meal and muscle meals produced under industry conditions.

## External Quality Assurance

If you carry out animal feed testing at your laboratory, **Vetqas, VLA's independent quality assurance unit** can provide Proficiency Testing/ External Quality Assurance (PT/EQA) schemes for the MAT and PCR procedures.



These schemes provide the evidence necessary to prove that your tests meet third party accreditation quality standards. Positive samples used in these two schemes are either bovine, ovine, porcine or avian meat and bonemeal and formulated using typical compound feed ingredients.

For more information on PT/EQA schemes please visit the VLA website: [www.vla.gov.uk](http://www.vla.gov.uk) or contact: [vetqas@vla.defra.gsi.gov.uk](mailto:vetqas@vla.defra.gsi.gov.uk)