Sending the best possible range of samples improves the chances of getting a positive diagnosis for the reason behind your sheep abortion outbreaks. This guide is intended to provide you with assistance as to what samples to take and how.

What warrants investigation?
- 2% or more of total flock aborted, or
- 2 or more aborting over 2-3 days (irrelevant of the size of the flock)

A few key points:
- If you or the farmer are close to a lab, please submit the whole foetus and placenta
- Sample fresh cases
- Avoid cases that are very autolysed or mummified
- When investigating an abortion outbreak sample more than one case
- Do the samples as soon as the problem is notified and get them in the post ASAP
- Speak to your lab of choice if you have specific concerns or questions

Equipment needed:
- PM knife and sterile scalpel blades
- Red and green vacutainer tubes (minimum 3)
- Universal pots – large and small
- Plain swabs
### What to take

<table>
<thead>
<tr>
<th>What to take</th>
<th>Details</th>
<th>What is this used for?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Placenta</strong></td>
<td>Sample as much as possible and ensure it contains cotyledons and some intercotyledonary tissue. Put in a universal container. If there is no placenta, take an impression smear of the tongue, this is not as good as placenta but is a useful back up.</td>
<td>Enzootic abortion (EAE) testing. It can also be tested for <em>Brucella</em>, <em>Coxiella</em> (Q fever) and Toxoplasma.</td>
</tr>
<tr>
<td><strong>Foetal Stomach Contents</strong></td>
<td>Take a sterile sample – use a vacutainer and red top tube, or sterile needle and syringe. If fluid is very thick, open with a sterile scalpel blade and sample with a syringe into a sterile container.</td>
<td>Key for bacteriological culture for example <em>Campylobacter</em> or <em>Salmonella</em>.</td>
</tr>
<tr>
<td><strong>Foetal Fluids</strong></td>
<td>Collect with a vacutainer into a red top tube, collect thoracic, abdominal or pericardial fluid. Can also be collected by sterile syringe or needle.</td>
<td>To tested for Toxoplasma antibody.</td>
</tr>
<tr>
<td><strong>Foetal Spleen (fresh)</strong></td>
<td>Collect into a universal container.</td>
<td>To look for Border disease.</td>
</tr>
<tr>
<td><strong>Foetal Liver (fresh)</strong></td>
<td>Collect into a universal container.</td>
<td>To look for additional bacteriology.</td>
</tr>
<tr>
<td><strong>Foetal Brain (fresh)</strong></td>
<td>Collect into a universal container – to look for Toxoplasma or Schmallenberg Virus.</td>
<td>It is useful to have fixed samples although they are not commonly processed.</td>
</tr>
<tr>
<td><strong>Maternal Blood</strong></td>
<td>Collect serum into a red top and plasma into green top tube.</td>
<td>For future confirmatory tests, if needed.</td>
</tr>
</tbody>
</table>

- Take as many of the above samples as possible.
- Be aware that submissions without placenta are significantly less likely to get a definitive diagnosis.
- Please include as detailed a history as possible including vaccinal status and any thoughts you have on the cause. This will help the lab determine which tests to run.
- Many labs will run tests in a logical order, so some samples may not need to be screened but if they don’t have the sample it may result in no diagnosis.
- If possible, discuss the case with the lab and then take appropriate samples.

### Summary:

- Multiple samples are best.
- Ideally the whole foetus and placenta should be sent directly to the lab. If there are multiple lambs from the same ewe, sample the freshest foetus.

**If you have to do an on farm post mortem:**

- Put all samples in universal containers or red top tubes.
- Send placenta, foetal stomach contents, foetal fluids, fresh liver, spleen and brain; plus a red top serum and green top plasma maternal blood sample.

The more fresh samples taken the more likely a diagnosis will be found.