

SAFETY PRECAUTIONS WHILE SAMPLING AND STERILIZING STOMACH CONTENTS OR DUNG.

All faecal samples and stomach samples have to be handled carefully and sterilized BEFORE sending as they may contain pathogens that could endanger livestock or humans.

Unsterilized samples will not be analyzed in our laboratory.

The following instructions **ONLY** apply to samples for diet analyses in which epidermis fragments have to be identified. For other samples, instructions can be obtained through Dr. Sip van Wieren. Note that in samples that have been heated to above 70 degrees Celsius neither nitrogen nor digestibility can be assessed correctly.

For rodent samples special care should be taken (see below).

Sterilizing samples:

Faecal samples or stomach samples can be sterilized by

1. preserving them in formalin or in FAA (10 parts-40% formaline, 85 parts-70% alcohol, 5 parts-glacial acetic acid). Attention: 40% formalin (French: formol) is sometimes called 100%. This hardens the outer layer of faecal pellets so step 2 (or 3) is still necessary to soften and loosen the material.

2. **Recommended:** autoclaving in some tap water (heat under pressure to 115° or preferably 125° for at least 2 hours and leave to soak overnight). This can be done in a laboratory autoclave or a pressure cooker for kitchen use. Every (mixed) sample has to be put separately in an undamaged glass jam jar with some water and covered by its tin lid. After cooling down add ethanol till a concentration is reached of about 70%. Methylated spirits (=blue spirits) can be used if no ethanol is available.

3. **If no autoclave or pressure cooker is available:** boiling in some water on a water bath, subsequently cooling down and boiling again in order to eliminate viruses and spore-forming organisms. Store in ethanol 70% as above. Boiling kills viruses and microorganisms but not spores. The larger part of surviving spores germinates when cooling down and then is killed by the alcohol. To kill all sporeforming organisms repeat boiling and cooling down.

4. Dry autoclaving at 140°. Excellent for sterilisation but not recommended as epidermis fragments are stuck together and are hard to suspend again so step 2 (or 3) is still necessary to soften and loosen the material.

Special care has to be taken to sterilize stomach or dung samples from rodents that possibly contain Hantavirus or other pathogens that are high-risk to humans.

Never open a package of it in a laboratory where the air-conditioning may spread any pathogens through the rest of the building. First heat the whole (unopened) package to 100° C for at least 3 hours and leave to cool overnight. Heating at 100° C is not sufficient to kill all pathogens so when opening it the following precautions have to be taken:

Always wear gloves, a mouth mask and protecting clothing.

Desinfect all working surfaces, wrappings and recipients with a halamid or strong bleach (French: Javelle) solution during and after the procedure. Desinfect gloved hands before taking off gloves and wash hands afterwards. Wash clothing at high temperature immediately afterwards. Burn any used plastic bags, gloves etc. immediately afterwards.

Then compose and further sterilize faecal samples as described.

Stomach samples and/or faecal samples that have not been sterilized in one of the above mentioned ways will not be accepted.