Sampling instructions &

Sample preparation

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Index

Introduction

This guide is designed to provide comprehensive instructions on the optimal methods for taking and preparing samples prior to utilising the NutriOpt On-site Adviser, tailored to various feed material types.

Accurate sample preparation is crucial for obtaining reliable and consistent results when using the NutriOpt On-site Adviser. By following the guidelines outlined in this manual, users can ensure that their samples are properly collected, handled, and prepared, thereby maximising the effectiveness of the scanning process.

In this manual, we will cover the step-by-step procedures for sample collection and preparation for different types of feed materials commonly analysed with the NutriOpt On-site Adviser. Whether you are working with grains, forages, or other feed ingredients, you will find detailed instructions to help you achieve optimal sample quality and accuracy.

We understand the importance of precise and efficient sample preparation in the feed analysis process. Therefore, this manual aims to empower you with the knowledge and techniques necessary to obtain the best possible results with the NutriOpt On-site Adviser.

Thank you for choosing NutriOpt On-site Adviser for your feed analysis needs. Let's begin with the fundamentals of sample preparation to ensure consistent and reliable outcomes.

Sampling instructions for dry raw materials and finished feed

Sampling of bags and big bags

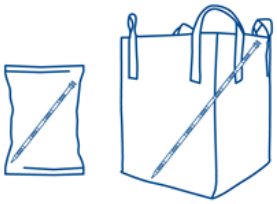
Equipment

Preferred equipment: Spear (length of bag or big bag)

Alternative equipment: Scoop

Method of sampling

Preferred sampling method



Alternative sampling method

Number of samples

Each individual sample should be at least 150 grams. Put every sample in a clean bucket and mix the whole sample well.

Bag and big bag	
< 10 bags	1 sample per bag
10 – 100 bags	1 sample every 10 bags, randomly
> 100 bags	At least √total number of bags

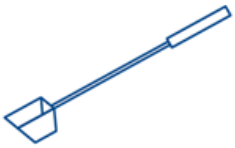
Sampling of bulk trucks

Equipment

From the truck: Spear

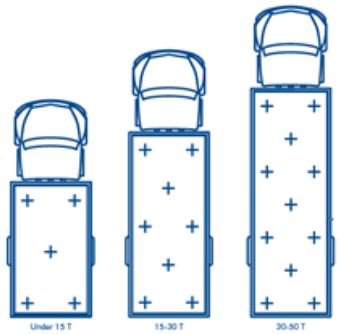
From the truck: Automatic truck probe sampler

While emptying the truck: Scoop

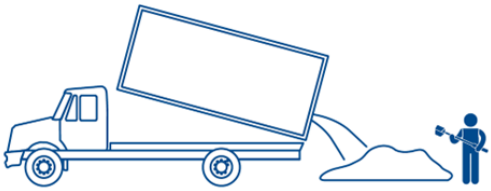


Method of sampling

From the truck: Spear and probe sampler



While emptying the truck: Scoop



Number of samples

Each individual sample should be at least 150 grams. Put every sample in a clean bucket and mix the whole sample well.

From the truck	
< 15T	5 samples
15T – 30T	8 samples
30T – 50T	11 samples

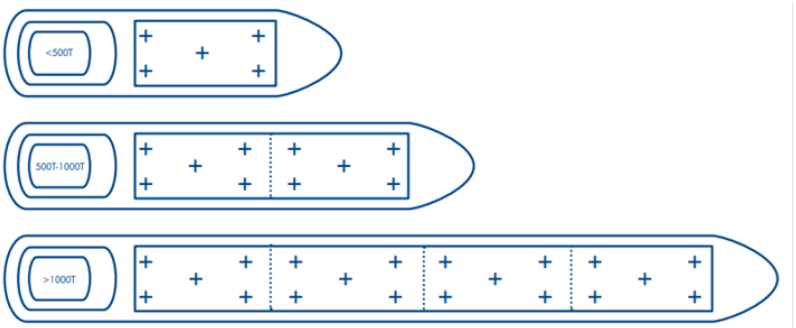
While emptying the truck
At least 10 takings across the time of emptying

Sampling of vessels

Equipment

Preferred equipment: Spear of 2 meter

Method of sampling



Number of samples

Each individual subsample should be at least 150 grams. Put every subsample in a clean bucket and mix the whole sample well.

From the vessel	
<500t	1 sample (consisting of 5 subsamples) every 100t
500t – 1000t	1 sample (consisting of 5 subsamples) every 250t
>1000t	1 sample (consisting of 5 subsamples) every 500t

Sampling instructions for silage pit

Equipment

- Silage core sampler mounted on a cordless drill (Figure 1) or a
- manual core sampler (Figure 2) or
- feed mixer truck (Figure 3).
- Bucket or other container to collect samples and a clean flat plate or panel.

<image will follow>
Figure 1

<image will follow>
Figure 2

<image will follow>
Figure 3

Method of sampling

- Take a sample 10-15 cm into the pit face. If the purpose of the sampling is to capture the Dry Matter content of the silage you will feed the same day, take a sample of the respective area you expect to use that day (figure 4). If the purpose of sampling is to know the nutritional quality of your silo for the coming days, take a representative sample of your silo, by following the "W-pattern" represented below (Figure 5).

It's crucial to note that the analysis outcome significantly depends on the moisture level of the silage, which can vary from day to day and even throughout the day.

The preferred method is to take the samples using a silage core sampler mounted on a cordless drill (Figure 1). If a manual core sampler is used, it's important to place the palm of your hand under the sampler to catch the small particles of the silage and prevent them from being lost. Collect the samples in a bucket.

Number of samples

Does the silage pit have various layers that are otherwise the same across the width? If so, take samples from top to bottom – at least five and preferably nine – as shown in Figure 4.

Does the silage pit have various layers and are these layers not the same thickness across the width? If so, take nine samples in a W-pattern as shown in Figure 5, with a representative amount per layer.

Figure 4

Figure 5

Sampling instructions for fresh grass

Tools required

- Grass shears/scissors
- Tray or bucket

What will you be sampling?

Fresh grass from one or more plots of land.

Sampling procedure

It is important to collect the grass when it is dry: rain and dew will adversely affect the analysis result. It is preferable to collect samples using grass shears or scissors. Cut 4 to 5 cm of fresh grass from the plot of which you want to analyse the composition. Collect enough material to fill the bottom of the sample tray (Figure 6). If there is a large variation in the composition of grass, sampling can be carried out at various locations.

Figure 6

Figure 7

Analysing with On-site Adviser

To get a good scan, it's important that the bottom of the sample tray is completely covered (Figure 7). In addition, it is very important to start the analysis immediately after collecting the grass. Do not wait longer than 10 minutes to make the scan.

Preparing the sample

Sample preparation

- Before initiating the scanning process, it's essential to prepare a sample.
- The sample chosen for scanning should be sufficiently large, ideally at least 700g, to adequately represent your testing area.
- Ensure thorough mixing of the sample in a bucket before splitting it for scanning. Mixing can be accomplished effectively using a spoon in a large bucket before dividing the sample for scanning.
- Refer to the sample instructions pages for information on how to take a good and representative sample.

Scan requirements

- At least five scans are required to get an accurate measurement of your sample.
- To ensure a good scan, it's crucial that the bottom of the sample tray is completely covered with the material you want to analyse.
- You may collect more material than will fit in the sample tray, especially with manual sampling.

Material division

For the best analysis result, divide your material as follows:

- Place the material on a clean, flat plate/panel and divide the sample into 2 or 4 equal parts (see Figure 8) and remove the opposite parts as shown in the figure.

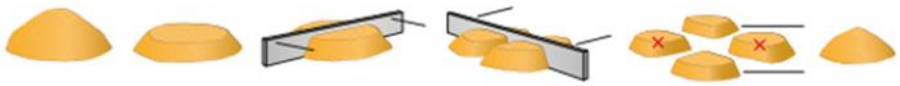


Figure 8

- Add all remaining parts to the tray to analyse the small particles of the sample as well.

Mix your sample well before filling the sample tray to the rim. If scanning a silage sample, fill a large tray (approximately 40x60cm).

Scanning procedure

- The sample can now be scanned.
- Carry out the scan within 15 minutes of collecting the samples.
- Follow the instructions in the NutriOpt On-site Adviser app for scanning.

Please note: you can only analyse a sample once. As the lamp in the scanner heats the material, the percentage of dry material will be affected during a new analysis.

Find more information on: www.trouwnutrition.com/onsiteadviser
Or contact your nearest Trouw Nutrition expert.