

# TECHNICAL SERVICES

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NWF Agriculture offers a wide range of Technical Services to help livestock farmers.

We provide a fully researched and accredited rationing programme, and unique laboratory service, to help develop and sustain the correct diet for your livestock.

Our sales specialists work alongside livestock farmers and our in-house nutritionists to develop tailored diets using our quality feed range of compounds and bespoke blends.

Our aim is to maximise flock and herd health, efficiency and performance, providing a range of technical services:

- Dairy Costings
- Beef Costings
- Ration Planning
- Diet Sieving
- Dung Sieving
- Mineral Analysis
- Interherd Report using NMR and CIS Data
- Heifer Rearing Calculator
- Youngstock Growth Monitor
- Soil Analysis
- Water Testing
- Forage Analysis
- Clamp Capacities
- Body Condition Score Monitor
- Mobility Score Monitor
- Youngstock Specialist Team

The team includes Certified Master Cow Signals® Trainers, providing advice on the six signs of freedom.

## BODY CONDITION SCORING

Body Condition Scoring (BCS) is a numeric score system to estimate the animals' body energy reserve.

It is a useful management tool to help aid decision making, helping to indicate the nutritional status of animals, as ideal live weight can vary from individual to individual. With variations in conditions directly impacting health, fertility & yield, understanding BCS can be a quick tool to assess your livestock.

Implementing BCS can benefit animal health and welfare; ensuring that good condition is throughout the herd/flock, and animal husbandry & management; identifying animals to manage accordingly.

For example; witnessing excessive weight loss between calving and peak yield. This management can have positive impacts on animal performance and on margin as you can feed according to condition.

We recommend evaluating and recording your herd three times a year.



# COW SIGNALS®

The concept is simple – it's about reading cow behaviour with the aim to improve their surroundings or routine, enabling farmers to increase production and longevity whilst lowering costs.

The Cow Signals diamond focuses on the six freedoms of a cow; feed, water, light, air, rest and space.

## Feed

Cows are natural grazers and so prefer to eat "little and often" (up to 12 times a day), constant access to feed is one of the pillars of health and production on dairy farms. Sufficient space at the trough, alongside numerous push-ups of feed, will be required to ensure fresh feed is available to the whole herd, rumen fill can be scored to assess feed intake.

## Water

Cows should have easy access to clean water at all times.  
Over 85% of milk is water and a 30L cow will drink up to 120L of water a day.

## Light

For optimum feed intakes and heat signals, it is recommended that lactating cows should lactating cows should have 16-18 hours at 200 Lux plus. (as a guide you should be able to read the paper in 200 Lux) and 6-8 hours at less than 50 Lux.

## Air

Fast breathing is one of the first symptoms of heat stress or lack of ventilation. Wet floors, condensation and cobwebs are all extra signs of a lack of ventilation in the shed. The air should be just as fresh as outside.

## Rest

When cows are lying down more blood is circulated through the udder and hooves are rested, cows resting for 14 hours have been shown to give more milk than those only resting for 9 hours. To achieve 14 hours, beds need to be comfy and the correct dimensions, the drop knee test can be used to determine how comfy beds are.

# COW SIGNALS®

## Space

Nothing should prevent cows from having access to feed, water or a bed. She should be free to socialise and exhibit signs of heat without hindrance (walk securely on a non-slippery floor).

We have Cow Signal Master Trainers within our team, who can help you understand the environment and what your cows are telling you as they go about their daily routines.

## NWF Agriculture offers two types of Cow Signals Workshops

### Full Day Workshop from 10 am to 3 pm

The morning is a classroom session working through the Cow Signals concepts and the theory for each of the 6 signs. The afternoon session is on farm putting the theory into practice.

### Evening Presentation 2hrs

A member of the NWF team would visit your evening meeting and present an overview of Cow Signals with take-home tips where simple changes on the farm or the way you watch the herd can make a difference.

## DUNG SIEVING

For those looking to produce more milk, you must understand what your cows are getting from their diet.

There are several methods you can use to determine rumen health, but one of the easier and faster options is dung sieving.

We recommend a three-tiered dung sieve, giving you the most accurate result.

Typically, we recommend getting approximately 10% of the herd number in dung samples, allowing for all bases to be covered, for larger herds, a total of 50 samples will suffice.

Our technical team recommends the Nasco Digester, along with a set of accurate digital weigh scales, notebook, smartphone for photos, gloves, scoop and access to a hose pipe. If you require this service, please get in touch with your rep and they will arrange to visit and carry out the assessment.

To begin, weigh out each component of your sieve, along with the scoop. Collect your fresh faeces samples in a large bucket and mix, fill the white scoop provided then slowly empty into the sieve whilst using the hose pipe to help it flow through (don't blast or force it through), continuing until all the dung has been added to the sieves. Take care not to add too much at any one time to prevent blocking the sieve, once the sample is completely washed through, weigh the total, each section of the sieve and take photographs.

1. Weigh total digester/sieves + retained samples = amount of manure retained.
2. Dismantle sieve and weigh individual parts + retained samples.
3. This will give values for top sieve + sample, middle sieve + sample and bottom sieve + sample.

After completing your test, we can provide calculations to work out percentages of dung retained in each sieve. We would hope that within the top sieve, you'll have less than 10% of the total, less than 20% in the middle and more than 50% in the bottom sieve.

## DIET SIEVING

### A diet sieving guide for traded products

Sieving a diet can be done to gain a further understanding of the physical components and the consistency of a ration. It can help assess the efficiency of the mixer on farm and can also highlight if the cattle are sorting their ration.



#### Procedure:

Take samples immediately after feed out at the top, middle and bottom of the feed barrier. Then take a second set of samples at approx. 4 hours post feed out, once the cows have had time to eat their TMR.

1. Weigh 400-600g of sample from set 1 and put in the top sieve (there should be 3 sieves stacked on a bottom tray (4 layers in total).
2. Shake the sieves 5 times- push away and pull back sharply. Turn the sieves clockwise and repeat this motion until you have done a full circle.
3. Repeat this in an anti-clockwise direction. The sieve should be shaken in a total of 10 direction.
4. Weigh each compartment with the sieved ration, and place the samples on the floor in order. Note the sample weight this data will be inputted into NWF's Diet Sieve Calculator.

Repeat steps 1 – 4 for each set of samples. Place each sample next to each other for visual comparison and take a photograph of the samples.

NWF's Diet Sieve Calculator will be used to generate the results, your adviser will then be able to interpret these and make recommendations.

Speak to your local NWF sales specialist about arranging a diet sieving test.

## FORAGE ANALYSIS

The foundation of effective ration planning is an understanding of the feed value of forages. We offer a full Forage Analysis Service from our on-site laboratory at Wardle, which is maintained and quality assured through the Forage Analyses Assurance network.

Our sales representatives work alongside farmers and our in-house nutritionists to develop tailored diets using our quality feed range with the aim to maximise herd health and output.

We provide a forage analysis service for Fresh Grass, Grass Silage, Maize, Whole-crop, Hay and Haylage, and aim to have fully comprehensive results in the hands of our customers within 24 hours of the sample being taken.

### Mineral Analysis

As livestock dietary requirements become more complex and the aim to maximize herd health. We offer a Mineral Analysis service for both soil and forage to identify any areas for improvement, results from which our nutritionists are able to advise and develop for individual herd requirements.

### Ration Planning

Our comprehensive NutriOpt Feed Rationing System is regularly updated to take accounts of all the developments that improve our understanding of how to ration cows effectively. Following discussions with our feed specialists, the program will formulate a cost-effective, balanced ration with sufficient levels of all essential nutrients to suit growth and animal welfare requirements.

ASK YOUR  
NWF SALES  
SPECIALIST FOR  
A FREE FORAGE  
ANALYSIS  
KIT





## DAIRY COSTINGS

We can provide a dairy costings service to stimulate discussion, help customers with their business efficiency and highlight areas that might need improving.

Your local sales representative can meet customers on the farm to discuss their results using graphing tools.

These tools enable us to assess your area of interest e.g. yield output, milk from forage & margin over concentrates. We can then analyse the report relating to your specific requirements and provide a detailed overview suggesting improvements.

Our league tables are generated every 4 months which help benchmark businesses against others of similar size.

## SOIL ANALYSIS

The Soil Analysis Service enables accurate assessment of the correct levels of the most important nutrients that should be applied to grassland, arable and forage crops.

### Soil Analysis Results

Soil analysis is necessary to enable prediction of nutrient levels available for crops, ensuring the correct applications can be made for optimum plant growth and crop protection. Standard soil analysis includes pH, P, K and Mg. Trace elements can be included on request at an additional cost.

The available levels of the following can be accurately measured:

- Phosphorus
- Potassium
- Magnesium
- pH
- Calcium
- Sulphur
- Sodium
- Iron
- Manganese
- Copper
- Zinc
- Boron
- Molybdenum (Cobalt, Iodine of grassland)

### Following three simple stages ensure the results are accurate:

- Stage 1. Take a representative sample, from a uniformly managed area
- Stage 2. Supplying all relevant field and background information
- Stage 3. Correct packaging of the sample to avoid contamination, and immediate dispatch to the laboratory.

Soil samples should be taken on all fields at least once every 2-4 years. The soil where vegetables or other crops are grown may need to be tested annually to ensure up to date information is available.

For arable and grassland, soil samples can be taken at any time of the year, provided fertiliser has not been applied in the past 6 months. Where lime has been applied, 2 years should be allowed before a sample is taken.

Fields of up to 10Ha (25 acres) can be sampled as a single unit, providing the field is uniform (i.e. soil type, past cropping, lime and fertiliser usage etc.). Large fields and fields which are not uniform should be subdivided and each area sampled and labelled as separate.

## SOIL SAMPLING PATHS

When taking soil samples, individual samples should follow a carefully thought-out route. The 'w-pattern' can be easily adapted to most shapes of field. Avoid areas which are not representative of the field, such as gateways, headlands, hedges, ditches, footpaths, fences, telegraph poles, or dumps of fertiliser, lime or manure.

We recommend 20 samples, taken at regular intervals.

Step 1 For each of the 20 samples, remove the top 5cm (2") of soil and discard away from the sample hole.

Step 2 Take a sample to a depth of 15cm (6") for arable or 7.5cm (3") for grass and place this into the plastic bucket.

Step 3 The 20 sub-samples should be mixed in the bucket, before filling a polythene bag with mixed soil (around 0.5kg (3/4lb) of soil).

Step 4 Seal bag securely and label it.

If there are problem patches within the field which need analysis, i.e. acid patches, do not mix with any other sub-samples, instead, sample separately.

SOIL  
ANALYSIS FROM  
£15 EACH, ASK  
YOUR NWF SALES  
SPECIALIST  
FOR KIT.

## YOUNGSTOCK TEAM & SERVICES

NWF Agriculture has developed a Youngstock Team consisting of specialists. The team has been developed to help improve the health and performance of calf rearing units and businesses, providing advice and services ranging from testing colostrum and monitoring growth to devising protocols and staff training.

The NWF Youngstock Team has both a wealth of industry and youngstock knowledge, experience and technical understanding, designed to help with a wide range of youngstock related areas.

### Youngstock Nutrition

It's what we do best. At NWF we have extensive experience of dairy and youngstock nutrition. With this, our Youngstock Team is perfectly positioned to provide knowledge and support on all aspects for calf rearing. Further supporting our youngstock team, is our blends desk who offer a portfolio of standard and bespoke youngstock blends.

### Feeding Advice

All of our Youngstock Team have been nutritionally trained to offer feeding support and advice. They are FAR registered, an industry accreditation that sets the standards for feeding advice.

### Weighing & Growth

The Youngstock Team will visit your farm, bringing all the necessary equipment, to weight, measure, monitor calves, as well as offering practical advice to help maximise your productivity when raising youngstock. Regularly monitoring body weight and growth can indicate potential issues in your system, and through their technical and youngstock training, the team can offer appropriate advice.

## Procedures & Gathering Data

The best way to understand how your livestock is performing, and therefore, the performance of the business is by collecting data. In calf rearing, daily liveweight gain is one of the most important indicators of efficiency and for long term performance and profitability of the enterprise.

## Housing

The environment where calves are housed is key to rearing healthy and productive calves. The type of housing will differ depending on the individual farm infrastructure. Location, wind speed, ventilation and moisture are all key components for calf housing, where calves must have sufficient space to express normal behaviour; to stretch and groom, stand up, eat, sleep and play. Calf housing should fundamentally be comfortable and clean, enabling the calf to focus on growing. The NWF Youngstock Team can offer advice on a range of housing-related situations including airflow and lying space. Conducting simple tests such as Nesting Scores are a great way to assist your calf housing.



## TAKING A SILAGE SAMPLE

NWF Agriculture offers a free silage and forage sample analysis. For more information on arranging a free analysis, or understanding more about the benefits of creating great silage, speak to your local NWF Sales Specialist.



## STEP-BY-STEP GUIDE TO TAKING FORAGE SAMPLES

### Clamp Silage (Maize and Wholecrop)

1	Sample approx. 15cm into the clamp face (carry a screwdriver with you).
2	Take 5-10 samples across the face in a "W" shape.
3	Mix the samples together on a clean surface.
4	Put 500g into a sample bag, pushing as much air out of the bag as possible (like a vacuum pack).
5	Fill in the yellow card for each sample. Please ensure this is readable and that all appropriate fields are filled in (name, account number and sample type and ID).
6	Send the sample (and card) to NWF Agriculture in the pre-paid bag. If the sample cannot be posted straight away, refrigerate the sample. *Do not freeze and do not send the sample of a Friday.
Core	To give an early assessment of the clamp prior to feeding, core samples can be taken. Take 3 full depth core samples from the top, along the diagonal of the clamp.

\*Do not underestimate the variability within the clamp. Most clamps have multiple cuts from multiple fields. Take regular samples as you go through the clamp to ensure a ration is balanced appropriately.

### Fresh Grass

1	Take 10 handful samples in an "X" pattern across the area (two samples at each point on the "X"). Cut these with scissors, at mower height.
2	Put into a sample bag, sealing as much air out of the bag as possible (like a vacuum pack). A minimum of 500g is required.
3	Fill in the yellow card for each sample. Please ensure this is readable and that all appropriate fields are filled in (name, account number and sample type; pre-cut, MYFG, grazed grass, and sample ID).
4	Post as soon as possible to NWF Agriculture in the pre-paid bag (with the yellow card).

\*With all samples, please ensure that they have ID- On the bag and the ID card!

### Key Points to consider when analyzing your silage

1. Energy    2. Protein    3. Dry Matter