

# Argyllshire Monitor Farm

## Determining the Profitable Suckler Cow with Nutrition Planning on an Island Farm.



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## 1. INTRODUCTION

The businesses' Farm Advisory Service integrated land management plan highlighted that improved nutritional management and data-driven decision making at Craigens, the Argyllshire monitor farm, could promote herd performance and reduce costs of production. Ration and mineral planning, along with data collection and analysis to improve breeding selection, will help control feed costs and optimise on-farm efficiency with cattle that suit the system at Craigens.

The data available on the farm also presented another opportunity to strengthen selection, increasing overall herd efficiency moving forward, by using more informed decisions. Data such as cow weight and body condition, alongside calf performance, can be used to model profitability on an individual basis to assess which cows are of most value to the herd. This should be considered alongside other data, such as calving interval, to ensure fertility is maintained.

## 2. PROJECT AIMS

The main project aims were as follows:

- Drive data-driven selection to increase the genetic potential of the herd on farm, making use of data already available.
- Develop clear protocols for data collection
- Review feed system to continue to make best use of on-farm/island resources.
- Create a Profitable Suckler Cow calculator: this would be highly innovative, where alongside physical traits used for heifer selection and culling policy, the financial data of the feeding costs of a cow over the winter could be calculated and used for a robust decision-making process.

### 3. HERD OBJECTIVES

At the beginning of the project, monitor farmer Craig Archibald was asked what the main objectives for the suckler herd were at Craigens Farm. These are the main objectives identified:

1. Maintain a good level of fertility within the herd.
2. Reduce calving intervention.
3. Produce good store calves to sell and heifers back into the herd.
4. Reduce the number of prolapses.
5. Have good longevity
6. Have good-tempered cows.
7. Increase the number of outwintered and potentially calve these outdoors also.

All these objectives must also be met while ensuring the herd remains profitable to the farming business. Considering the farm location also the cow must be able to achieve these goals on the resources readily available on the island.

### 4. Project Findings

The project can be split into 4 main areas during the project:

#### 4.1. Nutrition

Nutrition is integral to the management of health, performance and profitability of the suckler herd. This is even more exaggerated in an island situation where resources are limited and feed not grown on the island comes at a premium due to increased haulage costs. Islay is a diverse island with a large amount of non-improved grazing but also offering some improved pasture, forage crop possibilities and cereal grown for the whiskey trade on the island. The whiskey industry also offers by-product feed into the system, such as draff – although this supply can be interrupted at times and the competition for draff is increasing. This can help to limit the need for bought-in resources.

Suckler wintering at Craigens is split into two groups: Housed and Outwintered. The housed group are wintered inside on slats/stalls and consists of Heifers, thinner cows and any cows bearing twins. Cows in high body condition score >4.0 are wintered outside on deferred grazing on the dunes at Killenallan Farm and housed around 1 month pre-calving to calf indoors currently.

The housed cattle diet consists largely of draff and silage, which was analysed at the beginning of the project and is fed alongside pit silage with no other feed

supplemented. Heifers are fed some additional homegrown cereal that is urea/enzyme treated.

## 4.2. Review current data and performance

Craigens were already using the software package 'Farm Matters' to record a large amount of data on the herd, including cow liveweight at weaning, cow body conditions, scanning data, calf weights at 200 days and throughout winter and parentage of all stock on farm, but it was felt that this data was largely underutilised when it came to herd management decisions.

During the project, we also felt that ease of data collection on the farm can be improved, promoting the farm to purchase an Android tablet and look at connectivity in the shed to allow the weight scales to be linked to the app to improve ease and efficiency of data collection while cattle are in for other tasks.

A summary of performance data at Craigens for the 2024 calving herd can be seen below:

### Average Cow Weight

Cow Class	Average Weight (kg)	Min Weight (kg)	Max Weight (kg)
All Farm	730	542	966
Heifers	630	542	782
Cows	753	548	966

### Cow Efficiency

Cow Class	Average Efficiency	Minimum	Maximum
All Farm	38.6%	23.5%	53.7%
Heifers	42.8%	29.7%	53.7%
Cows	37.6%	23.5%	51%

### Calf Weaning Weight (2024 born – corrected to 200 days)

Stock Class	Average Weight (kg)	Min Weight (kg)	Max Weight (kg)
All Calves	278	185	373
Heifers	271	185	360
Steers	287	190	373
Bulls	285	248	312

### 4.3. Improve the heifer selection criteria

Traditionally, heifers at Craigens were selected largely based on liveweight at the time of selection, with some consideration made based on prior knowledge of dam performance (i.e. temperament and calving ease). This is typical of the selection of heifers in many herds. Due to the large amount of data on the herd available, it was felt that we could use this data to ensure we are selecting heifers that align with the herd's breeding goals to keep genetic improvement moving forward.

Heifers were weighed at weaning, and growth was monitored over winter to give us an accurate picture of performance feeding for around 1kg gain to ensure we meet weight goals for breeding. We also had data available on dam liveweight, BCS and calving interval, as well as previous calf performance that could be utilised.

To choose heifers to meet the farm breeding goals, the following criteria were used:

Heifers were first sorted by 200-day weight & current weight, after calves must meet the following criteria in order of priority: –

- Dams calving interval of <400days. – **Fertility**
- Daily liveweight gain of more than 0.9kg. – **Growth Potential**
- A dam's body condition between 2.5–4.0 – **BCS Management (potential to outwinter)**
- Cow efficiency >32% – **Productivity aiming for 42% target ideally.**

The farm was provided a list of heifers in the herd meeting selection criteria and then sorted through to ensure none were kept from dams with either a poor temperament or had calving difficulties (data which was not available on the management software). Out of the 44 selected, 5 heifers did not meet the farm check and were replaced with 2 twin heifers and one other, hence the slight variation in the final performance summary.

43 heifers were retained. A summary of the 2024-born retained heifers can be seen below:

	Average	Minimum	Maximum
200 Day Weight (kg)	271 kg	215 kg	320 kg
Weight at Selection (kg)	390 kg	326 kg	451 kg
Dam Calving Interval (Days)	374 days	Heifers / 335 days	529days
Daily Liveweight Gain from Birth (kg/day)	0.99 kg	0.81 kg	1.18 kg
Dam Body Condition	3.6	2.5	5
Dam Efficiency (%)	42.37%	69.38% (Twin)	32.51%

These heifers have been put to the bull at fifteen months for calving at two years old. It will be possible with the data available to follow the performance of these heifers right from their dam through to their own offspring.

#### 4.4. Identifying profitable cows in the herd.

As part of the project, we wanted to use the data available to identify those cows in the herd that are leaving us the most profit overall. One of the most variable and costly inputs into stock is feed, with intakes and requirements varying, driven by the individual's liveweight, body condition and stage of production. Due to a lack of grazing resources during winter, particularly on Islay, where geese deplete winter grazing, the majority of the herd have been traditionally wintered indoors, with some wintered on grazing on the dunes that go largely untouched by geese. On review of the herd, there was a wide variation in weights and therefore feed intakes, so to investigate this further, we looked at the value of the calf at weaning over the costs of keeping the cows based on their individual intakes. This will also take into account cows that are not working as efficiently in the herd or struggling to fit the system. Something which is vital in an area where making the best use of resources available is essential.



Feed and labour cost predictions for the average suckler at Craigens (housed vs outwintered)

	Housed	Outwintered
Feed		
Daily Feed Costs (£/Cow/day)	£1.67	£0.65
Feed Costs Whole Winter (£/180 days)	£300.60	£117.00
Difference (£/Cow)	£183.60	
Labour		
Daily Labour Costs (£/Cow/day)	£0.14	£0.07
Labour Costs Whole Winter (£/180 days)	£25.96	£13.34
Difference (£/cow)	£12.62	

Margin over feed costs based on calf value at weaning (Oct 2024 Value – 340ppkg).

	Housed	Outwintered
Dam Feed Costs (£/cow)	£300.60	£117.00
Calf Value at Weaning (£/calf)	£945.20	£945.20
Calf Margin over Feed Costs (£/Calf)	£644.60	£828.20
Difference (£ Housed Vs Outwintered)	<b>£183.60</b>	

Please note the margin over feed costs calculation only includes feed and bedding if relevant (although the majority of cows at Craigens are kept on slats, so this was not included). The calculations do not take into account other costs, including vet & med, labour (although predictions are included in the table above), fuel, housing and electricity.

Using the Craigens project as a base, we have also developed a suckler cow calculator to assist other producers in calculating calf margin over costs, suckler efficiency. The calculator also includes a ration check for suckler cattle to help determine costs.

## 5. Future Considerations

Some future considerations following on from this project include:

- Looking to increase levels of outwintering through building resilience in cattle.
- Potentially looking to move to outdoor calving for a proportion of cattle.
- The silage quality is ideal for growing stock; a more mature cut of silage would be ideal for maintaining suckler requirements at housing and simplifying the ration. Draff, some additional protein may be required closer to calving, depending on quality.
- Increasing outwintering will reduce pressure on pit forage and draff requirements while draff availability is reducing.

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