KTIF Scottish Government Final Report

Organic Dairy Goals 2023/24

March 2024

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1. PROJECT TITLE/APPLICANT

1.1. **TITLE:** Organic Dairy Goals 2023/24

1.2. **APPLICANT:** Scottish Organic Milk Producers (SOMP) was the project lead for this KTIF Knowledge Transfer and Skills Development grant support.

BENEFICIARIES: The project was open to all organic dairy producers and learnings shared more broadly.

ABOUT SOMP: SOMP is a co-operative representing all organic dairy producers in Scotland. Its primary purpose is to share best practice supported by projects such as this and to raise awareness of the benefits of organic production and organic dairy produce amongst consumers. SOMP currently represents 21 members (c.90% of organic milk produced in Scotland) who supply all processors that buy Scottish organic milk. The group reflects a breadth of herd management systems and are geographically spread from Inverness to the Scottish Borders, and Fraserburgh to Stranraer.

PROJECT PARTNERS: Project partners include specialist facilitators and the wider organic network to share and enhance learnings. Supported by:

- Robert Logan, SAOS Head of Co-op Development and Co-op Secretary for SOMP.
- Jim Baird, Independent Dairy Group Facilitator and dairy farmer.
- Maggie Magee, Border Woodland Services and Sandra Stewart, Farming and Conservation – both independent conservation consultants affiliated to ScotFWAG.
- Mark Tripney, iSoils, soil and farm nutrient management consultant.
- Adam Forrest, Scotland Food and Drink, Organic Development Manager was also a conduit into the wider Scottish Organic Stakeholders Group and Scottish Organic Action Plan working group.

OPERATIONAL GROUP: The above partners together with farmer representation from the SOMP board of directors ensured the project was producer led whilst benefiting from specialist input.

2. EXECUTIVE SUMMARY

A dynamic Scottish organic dairy sector needs confidence in its management decisions to ensure productivity, business resilience, alignment with the organic ethos and certification criteria. Arguably or at least partially, continuous improvement for the furtherance of best organic practice brings the inspiration and sustainable farming lead that others follow.

Like the wider dairy sector, organic production is exposed to market volatility and tighter consumer spending so there can be no complacency. If we want greener outcomes and sustainable organic farms, we need to link best farming practice with a combination of efficiency savings, enhanced resilience, and by demonstrating wider environmental advantage that holds a market differential.

To this end, this project was aimed at organic dairy farmers in Scotland. The vision is to improve organic dairying's financial and technical efficiency as well as to better understand environmental and biodiversity metrics for greater resilience, integrity, and marketability of Scottish organic dairy.

The project purpose is a crucial step towards this vision by (1) formalising the approach to organic dairy financial/farm/herd/enviro data capture and (2) demonstrating value and develop culture of group engagement in data analysis and discussion that will challenge and promote informed decision making. All bound within a trusted common interest group.

Confidence is a fragile commodity. This project looked to establish the benchmarking template and familiarisation with participants own herd management information, present analysis techniques, and introduce the challenge provided by a coalesced producer group to promote exchange of ideas and action on farm that furthers farm efficiency and project aims.

This inception year saw the group focus on: (1) familiarising with the spreadsheet input forms, (2) data entry and output presentation, and (3) the first facilitated meetings to demonstrate and coalesce around the group's benefit to individual participants.

Strong emphasis was placed on retaining a near ‘real-time’ link between financial and technical performance. This ensures financial impact and actionable drivers of change, i.e. husbandry, are much closer bound – achieved by inputting monthly management information rather than waiting for formal Financial Statements produced sometime after yearend, which itself differs between businesses. The assistance of a specialist facilitator supported this task.

The effective operating window of the project was 7-months. During this period the benchmarking group has inputted, analysed, and held group discussion using over 12-months of their own information. The benchmarking group provided effective debate and challenge, and each participant has now committed 3-action areas, resulting from this exercise. Other producers have now expressed interest in the group, which would be most welcome.

The quality of discussion and level of engagement in this exercise revealed the value of such projects – helping ‘pump prime’ and lay foundations that instil confidence for producers to then invest their own time.

Investigating practical measures to support biodiversity and how best to measure their benefit was a second major focus of the project. Whilst still at an exploratory stage, a pragmatic approach like that used for technical and financial benchmarking is being pursued. Feedback based on (1) early engagement, (2) the structure provided by the exampled self-check score sheet, and (3) identified simple metrics of biodiversity were highly encouraging. Again, this would not have been possible without specialist expertise. In this case, conservation consultants and a soils specialist.

To accommodate flexible levels of involvement, discussions around financial benchmarking was separate to that of soil and nature meaning the project was inclusive and open to all interested producers.

This two-pronged approach of ‘financial’ and ‘environment’ was both effective and demonstrated great potential to develop further as data builds, confidence grows, and shared learnings identify more opportunities for action on farm – see outputs and recommendations sections. Based on the strength of this inception year, it is foreseeable that these elements combine in the future to the benefit of the overall vision.

3. PROJECT DESCRIPTION

PROJECT PURPOSE:

The vision is to improve organic dairy farm financial and technical efficiency as well as to better understand environmental and biodiversity metrics for greater resilience, integrity, and marketability of Scottish organic dairy.

The project purpose is a crucial step towards this vision by (1) formalising the approach to organic dairy financial/farm/herd/enviro data capture and (2) demonstrating value and develop culture of group engagement in data analysis and discussion that will challenge and promote informed decision making. All bound within a trusted common interest group.

WHY IMPORTANT:

This inception year project was a vital step in building producer confidence and creating habit; to realise the potential in data collation, benchmarking and analysis, and shared experience towards informed decision making for a stronger organic dairy sector. Identifying technical, financial, and environmental efficiency, with associated metrics, will help inform and develop the organic market differential.

WHO's INVOLVED:

The primary audience is Scotland's organic milk producers, with the project being led by Scottish Organic Milk Producers' Association. SOMP is a co-operative representing all organic dairy producers. Its main objectives are to coordinate KTE activity such as this project and promote the value of organic dairy production to consumers. More detail at item 1.2, above.

HOW DELIVERED:

This is an inception year project, with a primary focus of getting the benchmarking group up and running. Each participating farmer supplied monthly benchmarking data (physical/financial/enviro), with support as required.

Due to the geographical spread, engagement was via a blend of in-person, online, email, calls, and WhatsApp for ease and to minimise barriers to participation.

WHAT WE DID

This inception year saw (1) the formation of the group, (2) familiarising with the input sheets and function of the spreadsheet, (3) habit forming of data entry and (4) the first facilitated meetings to demonstrate and coalesce around the group's collective value for individual farm (and sector) benefit.

A critical strength in approach was to ensure the benchmarking exercise, analysis and resulting discussion strongly linked financial performance with on-farm husbandry. Early group feedback highlighted the risk of benchmarking losing the balance, with financials becoming detached from often more relatable and actionable measures of technical performance.

To avoid this trap and strengthen effectiveness of discussion and analysis, a pragmatic approach to financial and technical benchmarking was used to great effect. Even after only a 7-month operational window, the group has compiled and analysed 12-months of their own information, provided debate and challenge to the group, and committed 3-action areas each resulting from this exercise. Other producers have expressed interest in the group, which will be most welcome.

A similar approach – identifying pragmatic actions and measures – was used when exploring environment and conservation measures and metrics. Natural capital (biodiversity) measurement is currently less well defined or easy to assess but the project group benefited from tips and examples provided by specialist conservation consultants and a soils specialist, which will provide an excellent grounding.

Discussions around financial benchmarking was separate to that of soil and nature meaning the project was inclusive for all interested producers; being open to differing levels of involvement as preferred by any individual farmer.

Fortuitously, this project also partly coincided and facilitated early interaction with the Scottish Organic Stakeholders Group and now the Scottish Organic Action Plan working group. These are facilitated by Adam Forrest, SF&D Organic Development Manager who has also been highly supportive of SOMP and the project operational group.

4. FINANCE

4.1. Sum awarded: **£28,427.25** (75% grant rate)
Successfully awarded by the Scottish Government SRDP KTI - Knowledge Transfer and Skills Development Grant.

4.2. Detail of spend: **£18,786.18** over a 7-mth operating window.

4.3. Underspend: **£9,641.07**
Reasons for the underspend were –

(1) One in-person meeting not delivered (homegrown proteins and grassland management). Time was short and the group wanted to firstly understand their priorities once they have a better feel for their technical and financial benchmarking exercise. Commenting that reducing reliance on imported organic soyabean meal is important but we need to understand the growing costs / income foregone being on predominantly grassland farms not arable. Actions in better grass utilisation from a previous 'grass to glass' project have persisted to great benefit so this was deemed a lesser priority, at this juncture.

(2) No grassland consultant fee or resulting meeting summary note (also ref to point 1, above).

(3) No short video clip – some reticence over camera work and limited photographic opportunity being predominantly in-person desk based or online meets.

(4) Also, a series of efficiencies that were collectively significant:

a. Efficiency – farmers taking part in the benchmarking group required some assistance but not as much as budgeted.
b. Efficiency – No specialist speakers required overnight accommodation, as was budgeted.
c. Efficiency – In-person meeting venue was central to speakers, limiting paid travel costs. Originally budgeted to spread venues regionally.
d. Efficiency – We used facilitator, Jim Baird's, farm that was provided at no cost. And a simple sandwich lunch. This also ensured more time spent in discussion.
e. Efficiency – Farmers brought their own soil analysis as examples for the Soil specialist. No project soil sampling cost incurred.

5. PROJECT AIMS/OBJECTIVES

To demonstrably align with Scottish Government policy objectives and producer aspiration to drive farm business and environmental efficiency, and commitment to organic farming.

Project funding will set the foundations to enhance data management insight, skills, and the culture necessary as a key steppingstone in the broader vision:

(1) To match Scotland's ambition of being amongst the most efficient agricultural sectors in the world.
(2) To reflect Scottish Governments priority to double the amount of land under organic management, and
(3) To prioritise local and organic produce in public sector food procurement as part of Scotland's green recovery.

To enable access to a formalised and prioritised approach to benchmarking.

To build habit in farm performance recording, year-on-year and contemporary benchmarking, and group meetings for challenge and shared learnings as a valuable process of continuous improvement to accelerate change – harnessing the advantage of a common interest group in peer-to-peer learning.

To develop skill and confidence in interpreting farm data for more confident and informed management insight.

To better understand how carbon footprints and other environmental measures can inform farm management and market differentiation.

To review and assess the potential in homegrown protein source substitutes.

6. PROJECT OUTCOMES

6.1. **PRIORITIES:** The main priorities to achieve the above aims and objectives during this project window were to (1) formalise the approach to organic dairy financial/farm/herd/enviro data capture and (2) demonstrate value and develop culture of group engagement in data analysis and discussion that will challenge and promote informed decision making. (3) All bound within a trusted common interest group.

BENEFITS/OUTCOMES: Anticipated outcomes looked to directly support the business and environmental efficiency of 24 Scottish organic dairy farms. Learnings will be shared more widely within the organic sector and Scottish dairy industry of c.850 dairy farms. Outcomes were as follows:

(1) A more efficient, resilient, and market led Scottish organic dairy sector.

Impact: **In progress.** The group shows enthusiasm and has coalesced around the shared goal. Each benchmarking group member has committed three priority action areas to progress their business and environmental performance. This ranges through nutrition, fertility, breeding objectives, grassland utilisation, labour and energy usage. These align well with livestock profit drivers, MACC livestock priority areas (https://www.climatexchange.org.uk/wp-content/uploads/2023/09/cxc-marginal-abatement-cost-curve-for-scottish-agriculture-august-2020.pdf) and livestock carbon footprinting focus areas.

(2) Purpose driven support that strengthens Scottish organic network collaboration– supply chain, certification bodies (SOPA & SA), and Scotland Food & Drink – towards meeting national commitments.

Impact: **In part.** Discussions have taken place with key organic stakeholders and this link will be maintained informally and via the network strengthened by the Organic Action Plan working group activity. Future synergies and joint working to better define, share, and discuss project and wider learnings amongst a larger organic producer community is promising.

(3) Demonstrated value and habitualise monthly on-farm benchmarking – the project budgeted to engage between 9 - 14 of the 24 organic dairy farms.

Impact: **In progress.** The benchmarking group has been established and feedback from this project indicates an establishing group and format. Gained inception year commitment from 9 organic dairy producers, representing 55% of Scottish organic dairy by volume and 40% by numbers.

(4) Improved skill set in data interpretation and informed management insight to accelerate positive change.

Impact: **In progress.** The group benchmarking year-end date was agreed for like-for-like comparison. Monthly technical and financial information was collected for each of the participating farms. Over 12-months data has now been collected over the 7-month operational period of the project, to allow cross-year comparison. Farm cost of production and efficiency KPI measures have been identified.

(5) Promote data-driven, focused, and higher value workshop discussion for greater impact to business, environmental efficiency, and regenerative practice.

Impact: **Completed.** An online call and two technical and financial benchmarking in-person meetings have been delivered. The project has supported the establishment of a highly functioning 'open book' benchmarking group based on trust that has been formed over many years as either within SOMP or as contemporaries with a common interest in organic dairying and continuous improvement. There have been expressions of interest from other organic dairy producers on joining the group. This would be most welcome.

(6) Interpretation of farm carbon footprints and their learnings to inform efficient production.

Impact: **In part.** Key drivers to livestock production environmental efficiency identified through Marginal Abatement Cost Curve (MACC) were used rather than full comparison across the financial and technical benchmarking group using a common carbon calculator. This is something that could be developed in future.

(7) Formalising a benchmarking process for on-going group benefit beyond the duration of this project.

Impact: **Completed.** Promoted the advantage of benchmarking and the aims of the project amongst organic dairy farmers. Introduced the specialist dairy facilitator (Jim Baird), the benchmarking format, and commitment needed – online meeting. MS Excel based benchmarking input forms circulated to those producers who expressed interest. Walk through of the input forms and layout of output information to gain familiarity and ease completion. Support for the completion of monthly management info provided via telephone, email, and WhatsApp group.

(8) Increased confidence for informed decision making to support future investments, become more efficient and improve carbon efficiency.

Impact: **Completed.** See point (1) above.

(9) Improve understanding of natural capital management

Impact: **In progress.** A meeting on soil nutrition within grassland management, soil analysis interpretation, and understanding the parameters for optimum performance within the context of organic systems was delivered.

The physical attributes of a healthy soil and biodiversity were also discussed at our biodiversity meeting. Taking a similar approach as technical benchmarking, the emphasis was on practical measures for conservation alongside farming. A slightly different mix of producers attended this online meeting that represented 10 farms, 60% of organic milk production by volume and 45% of the Scottish organic producers.

Learnings and summary notes from the biodiversity meeting have been circulated to all organic dairy producers.

The biodiversity meeting facilitators also introduced a simply self-check score card to help producers assess opportunity and collate field-by-field notes to generate a benchmark of environmental performance.

(10) Understanding of organic soyabean meal substitutes and the viability of homegrown alternatives.

Impact: **For future.** The in-person meeting focusing on homegrown proteins and grassland management was not delivered. Time was short and the working group prioritised accordingly. Note that emphasis fell on firstly better understanding technical and financial performance and refining grassland management on grassland farms before exploring options to grow alternative proteins. Another element to explore in future will be the potential of incentivising the rotational growing of beans and pulses on arable farms.

(11) Align data capture with the needs of their supply chains – aiming to minimise duplication in data capture.

Impact: **In progress.** Preliminary discussion has been raised with milk processors who have shown interest. Given any supply chain initiative offers potential marketing advantage there may be some resistance to alignment across those who process Scottish organic milk.

The group can, however, progress important efficiency and biodiversity based data recording to support generic market engagement, business efficiency, and aim to best align with supply chain needs as this develops in future be proactive and avoid duplication of effort.

6.2. Milestones

Outcomes were progressed or reached by achieving the following milestones:

Project GANTT Chart

KTIF Project 2023/24

Scottish Organic Dairy Goals 2023/24

	Major activity	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
	Effective start date after silage harvest							
1	Establish an operational group and identify partners and specialist speakers							
2	Supporting benchmarking data collection							
3	Benchmarking group meeting - online							
4	Benchmarking group meeting - pt1 in-person							
5	Soil structure and fertility - in-person							
6	Develop proj web pages on https://scottishorganicmilk.org/							
7	Press article x1							
8	Relay the purpose of the project around all organic dairy producers							
9	Updated material for website							
10	Contact and confirm commitment to the technical/financial benchmarking group							
11	Benchmarking group meeting - pt2 in-person							
12	Committing to 3 priority actions							
13	Living soil, biodiversity and environmental measures and metrics - online							
14	Summary take home messages and presentation circulated around all organic dairy producers							
15	'2-pager' summary							
16	Press article x1							
17	Final report writing							

7. LESSONS LEARNED

7.1. Issues/Challenges

Don't underestimate the initial time demand or perceived demand at the start and how that can impact commitment. The project facilitated group support. And this service was used. But the ultimate responsibility to input info to the spreadsheet must be owned by the individual. Only then can the group become most familiar with the process and their own numbers, to make it more self-sustaining in future. Similar future projects, however, should not underestimate the commitment required in preparatory work. People are time poor and majorly committed on farm. Especially due to the nature of using monthly management information, meetings quickly benefit from having 12-months inputted to derive better informed discussion and actions more quickly. That initial info (time) input was a perceived barrier from some joining the group. However, as a participant said "the thought of getting started was worse than doing it, once familiar with the process" and "ultimately, the more you put in the more you get out". It is a commitment to themselves and each other.

The time it takes for trust to develop and the group to coalesce around a clear purpose was a risk at the start but it did not manifest, likely due to being a common interest group (organic dairy farming), this not having been done before, and with many of the participants being familiar with each other through SOMP co-operative membership.

The nature of farming means it will take time to realise the impact of actions on-farm resulting from benchmarking and peer-to-peer discussion. The benchmarking process does, however, allow its members to monitor progress over time.

Working with a geographically spread group has inevitable challenges. As mentioned above, a common interest group has significant advantage. The challenge of this group being geographically spread does mean greater reliance on a blended approach to project delivery. Where in-person meetings would be preferred, the blend of in-person and online meetings combined with documents and communications by email, calls, and WhatsApp are a reasonable compromise.

Biodiversity measures are in their infancy and often difficult or subjective to assess. An online meeting with conservation specialists was very well received and their practical approach to blending conservation with farming raised positive discussion. This was followed with the introduction of a self-check scorecard for the group to trial. This has potential to enrich the future benchmarking process.

7.2. Impacts and would you do anything differently.

Plan available dates quickly with the operational group, partners, and specialists as finding mutually available dates that coincide with windows in the farming calendar is challenging. This was especially true in autumn 2023; accommodating silage making and a late harvest made for a later start and essentially a 7-month project.

8. COMMUNICATION & ENGAGEMENT

8.1. Detail comms throughout the project's lifetime.

(1) Regular contact with the operational group.
(2) WhatsApp/Calls/Email support with participating benchmarking group producers.
(3) Advertisements and meeting summary updates circulated around all 24 organic dairy farms.
(4) Contact made with wider organic stakeholders.
(5) SOMP project webpage.
(6) Press release of the project launch and its objectives.
    - SOMP Website
    - SAOS newsletter and socials.
    - Promoted to other farmer co-ops and their members (24,600)
    - Made available to the farming press.
(7) General messaging from the financial and technical benchmarking are available in a press release and 2-pager for a wider audience.

8.2. FAS Engagement (if applicable)

This report and a farmer summary report available for FAS

9. KEY FINDINGS AND RECOMMENDATIONS

KEY FINDINGS

This inception year project's primary aim was to set up, familiarise the group with the process, and establish a baseline. This has all been achieved. The quality of conversation and cohesion built on trust derived from the familiarity of being an existing SOMP member or being a common interest group with a recognise need has created a highly functioning group, which has been inspiring. Participants confidence and clarity in defining and committing to 3 key action areas is highly encouraging. It also raises opportunity to enhance the process and help accelerate measurable change.

Organic dairy producer discussion on biodiversity raised some exciting opportunity to trial the methodology and test some simple metrics. Piloting this process and walking one or two case-study farms through a management map was positively received and deemed useful by the group.

The technical/financial benchmarking group prioritised the need to understand costs and establish a baseline before considering the cost benefit of growing alternative proteins has merit. Further enhancements to grassland management on predominantly grassland farms seems most sensible. Nonetheless, MACC identifies that growing beans and pulses has real opportunity to lower the farm carbon footprint. Understanding costs and the potential to grow or contract grow in Scotland raises a very interesting demand led question for the wider organic sector to displace imported proteins and especially imported soybean meal.

A common theme of the benchmarking group was identifying marginal litres and what that means for their businesses. The issue of how we value family labour or opportunity cost of doing other things also influences this equation. No two businesses or years are the same but it would be advantageous to explore how we might better help this group satisfy this question. The value (or otherwise) in pursuing marginal litres is a question for all dairy producers, so this question could have extended value.

RECOMMENDATIONS / NEXT STEPS

(1) Repeat the technical and financial benchmarking exercise for another year to ensure it is habitualised.

(2) Find a suitable way to lower barriers to entry to the group. If interested producers could start recording soon, (rather than entering 12-months info all at once) they could have a near complete year by what would be the next scheduled meeting – the facilitator, Jim Board recommends a group meets in-person biennially.

(3) Use common issues raised through producers 3-action areas to prioritise additional specialist support and help inform decisions and accelerate change.

(4) A few additions and refinements have been recommended for the benchmarking exercise.

(5) Pilot habitat and proposed management map on a few farms as a case study to example to the group farming with conservation in practice. To also complete a self-assessment score guide across sample farms.

(6) Benchmarking to be expanded to accommodate identified biodiversity measures.

(7) Expand beyond MACC informed environmental efficiency priorities to individual carbon audits. Then compare carbon footprint results against technical and financial benchmarking. To identify technical enhancements and their proxy advantage to farm carbon emissions (CO2e).

(8) Actual farm soil health assessment incl. organic matter, worm count, and microorganisms. To compare analysis with field type and treatments.

(9) Test the viability and opportunity cost of homegrown proteins or alternative opportunities in conjunction with organic arable crop growers.

10. CONCLUSION

REMIND OURSELVES OF THE 'WHY': This project looked to establish the benchmarking template and familiarisation with participants own herd management information, present analysis techniques, and introduce the challenge provided by a coalesced producer (common interest) group to promote exchange of ideas and action on farm that furthers farm efficiency and project aims. This demonstrably aligns with Scottish Government policy objectives and producer aspiration to drive farm business and environmental efficiency, biodiversity enrichment, and commitment to organic farming.

This inception year project was a vital step in building producer confidence and creating habit; to realise the potential in data collation, benchmarking and analysis, and shared experience towards informed decision making for a stronger organic dairy sector. And also to use associated metrics to help inform / develop the organic market differential.

A DYNAMIC ORGANIC SECTOR SETS THE BENCHMARK: Increasing awareness of the climate emergency and biodiversity loss requires farming practices that satisfy productivity, resilience, and sustainability but also regeneration. In this regard, organic certified production has set the benchmark that challenges others to follow. Whilst there are fundamental and certifiable differences between organic and conventional production, a dynamic organic sector trialling new approaches that balance the needs of productivity, environment, and public good can only be beneficial to climate and biodiversity, and a healthy challenge to inspire even more sustainable farming practices across the wider sector.

THE POWER OF CO-OPERTATION: The value of SOMP co-operative involvement and the ethos of engaging with and working with partners is extremely powerful and efficient in bringing effective communities of people together, promoting knowledge exchange, and accelerating change.

IMPORTANCE OF THE RIGHT PARTNERS AND CULTURE: Having the right partners has been crucial to ensure both specialism and excellent facilitation skills that both inform and support discussion, to empower the group – after all it is producer action that will deliver the desired results.

WITH THANKS: Funding support, such as KTIF, is an often underappreciated but hugely valuable resource to such projects. Especially in the inception years, financial assistance helps derisk and instil producer confidence to lay the foundations for an enquiring group that supports action.

Success of such project activity is never assured and there is always more to do. But that is the value in early-stage support. Recommendations and next steps, identified above, are testament to the value of exploration and continuous improvement.

11. ANNEXES

List of appendices

1. **Appendix 1 –**
   Example of data being recorded as part of the benchmarking group.

2. **Appendix 2 –**
   Example of recordable information that would inform the value of on-farm biodiversity.

3. **Appendix 3 – Biodiversity meeting summary sheet**

4. **Appendix 4 – Producer report summary**

11.1. Appendix 1 –

Sample of monthly data being recorded as part of the benchmarking group.

- Milk sales
- Milk quality
- Cows in-milk
- Cows calved
- Heifers calved
- Mortalities
- Feed costs and volume
- Bedding
- Vet & Med
- Livestock sundries
- Crop inputs
- Machinery and contractors
- Utilities and usage (units)
- Labour and family labour

This sample directly or indirectly contributes to over 100 data points.

11.2. Appendix 2 –

Sample of recordable information that would inform the value of on-farm biodiversity.

- Improved Grassland (as is defined)
- Cropped Land mix
- Standing Open Water
- Natural Woodland
- Mixed Woodland
- Wood Pasture
- Semi-improved and Unimproved Grassland
- Salt Marsh
- Hedge (quality parameters as defined)
- Drystane Dyke (quality parameters as defined)
- Running Water- linear meterage
- Riparian Habitat 12.
- Line of Trees

11.3. Appendix 3 –

Biodiversity meeting summary sheet

Integrating Farming Systems with Biodiversity

Meeting Notes

Scottish Organic Milk Producers
27 March 2024

When considering habitat value and options for management, how should we prioritise?

Think diversity of vegetation
Think diversity of structure (heights, widths)
Think connectivity.

Simple Actions Can Be Very Effective

- Grazing is better for soil biology and invertebrates (cow pats have good biome and the heat attracts biological activity and insects)
- Mixed swards with different rooting depths can help soil structure and be more resilient to extremes of weather. Clover is a big first step – a natural choice of being organic.
- Rotational grazing can be useful in mixed swards as the rest between grazing's allows different species to flower.
- Planting a few trees (strategically placed) are great for wildlife and shelter. Example tree guards were considered useful - https://cactustreeguards.co.uk/. Effective and reusable albeit a high initial cost.

Take the Spade a Walk

ACTION: You will be walking grassland fields and looking at grass growth during the growing season, so take the spade:

Assess the soil structure and health by digging to spade width and spade head depth. Use the Visual Evaluation of Soil Structure (VESS). Just laminate it and keep it to hand. Circulated but also see https://www.farmingforabetterclimate.org/wp-content/uploads/2023/04/Valuing_Your_Soils.pdf p47.

Soil worm count is a simple and effective indicator of soil organic matter and structure. Obviously, it depends on where you test and at what time of year (and even the weather). But have a think, jot it down as a baseline (along with the date/location/weather) when doing test digs.

ACTION: The 'cotton pants' test. Bury them in the soil as an indicator test to how active your soil biology is in that location / field / management system. A good article on instruction and value, see https://www.farmersjournal.ie/farm-programmes/footprint-farmers/check-your-soil-health-with-the-underpants-test-722888

Think Field Boundaries

- You might not be able to do something on all field boundaries, but targeted management will have the biggest benefit. Considering the likely strength of benefit of the following advantages when prioritising action:
    - Field boundaries are wildlife corridor between habitats,
    - Be a biosecurity barrier with neighbouring livestock,
    - As a nutrient buffer zone,
    - Provide livestock shelter and shade (increasingly important),
    - Be a wildlife sanctuary and food source.
- It might not need to be a full hedge. Maybe a linear thicket would be a good compromise. Either way, thin 'lollipop' hedges could have so much more value to the farm and nature.
- Plant the right tree on the right location!
- Ponds are good but not 'in-burn' ponds. Location is important to avoid damaging diverse wetland sites and, equally, the flow of field drains. But on the right site it can be simple, highly effective, and rewarding with limited if any loss of agricultural value. It may even benefit in reducing exposure to fluke / mud snails.

ACTION: Consider having a hedge management plan. We have similar plans for drains and cropping; it will help keep track of the frequency of cutting required in different locations e.g. roadsides might be annual, tracks biennial, and some internals could be cut every three years.

Fodder Crops

They are excellent for invertebrates and therefore birdlife. Try leaving a small section of crop or wildbird cover to the end-March. That will help fill natures 'hunger gap'.

Farm Biodiversity Score Card

We received a useful introduction to a simple self-assessment tool to help structure your thoughts on prioritising actions most likely to benefit biodiversity on farm.

ACTION: Like any exercise, the task is to shortlist actions and challenge yourself how best to implement without compromising or minimising the impact on farm profitability.

11.4. Appendix 4 – Producer report summary

Organic Dairy Goals 2023/24

A Scottish Government KTIF funded project.

The project and wider vision of Scottish Organic Milk Producers https://scottishorganicmilk.org/ is to improve organic dairy farm productivity. To better understand environmental and biodiversity metrics for greater efficiency, resilience, integrity, and marketability of Scottish organic dairy.

This inception project purpose is a crucial step towards this vision by: (1) formalising the approach to organic dairy financial/farm/herd/enviro data capture and (2) demonstrating value and develop a culture of group engagement in data analysis and discussion that will challenge and promote informed decision making. All bound within a trusted common interest group.

BACKGROUND: Whilst there are fundamental and certifiable differences between organic and conventional production, a dynamic organic sector trialling new approaches that balance the needs of productivity, environment, and public good can only be beneficial to rural communities, climate, and biodiversity, as well as being a positive challenge to inspire even more sustainable farming practices across the wider sector.

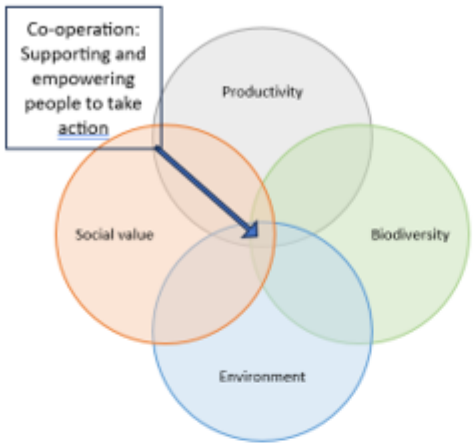
This inception year project was a vital step in building producer confidence and creating habit; to realise the potential in data collation, group benchmarking and analysis, and shared experience towards informed decision making for a stronger organic dairy sector. Identifying technical, financial, and environmental efficiency, with associated metrics, will help inform and develop the organic market differential.

WHAT WE DID: Trust through co-operation. The quality of conversation and cohesion derived from participants either being an existing member of SOMP or having a common interest and recognise need has created an inspired group, quick to build on ideas. Over the last 7-months, the group has inputted over 12-months of management info, analysed KPIs, initiated challenging discussion at our first meetings, and identified and committed to three action areas of priority to each individual business.

Priority action areas will support farm and environmental efficiency. These range from nutrition, fertility, breeding objectives, grassland utilisation, labour and energy usage, which align well with livestock profit drivers, MACC livestock priority areas (https://www.climatexchange.org.uk/wp-content/uploads/2023/09/cxc-marginal-abatement-cost-curve-for-scottish-agriculture-august-2020.pdf) and livestock carbon footprint focus areas. This lays the foundation and provides focus for future exploration.

Soil and nutrient management within an organic system was also explored. Organic milk producers also participated in a 'farming with biodiversity' meeting that introduced practical tips and tools to assess farm conservation value. Each offering potential new avenues that support the purpose.

ORGANIC DAIRYING AND FINDING THE BALANCE



As we look for more or enhanced regenerative farming methods that also ensure farm productivity, biodiversity, and societal benefit will require lots more considered thinking and output focused actions as supported by this project funding – it is a journey.

This inception year indicates business priority action areas align with environmental efficiency. We now need to ensure we can simultaneously align and enhance biodiversity and social goals.

FARMING WITH BIODIVERSITY

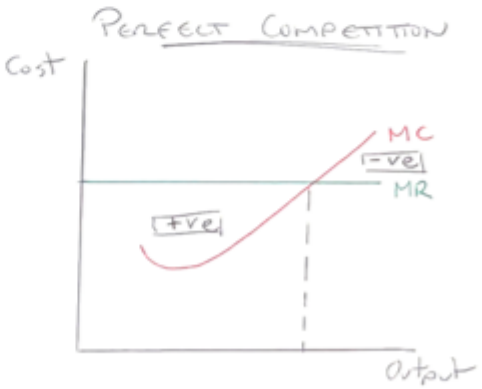
Maggie Magee, Border Woodland Services and Sandra Stewart, Farming and Conservation – both independent conservation consultants affiliated to ScotFWAG exampled some practical approaches to deliver simple conservation value within a working farm. It was an excellent introduction that included a biodiversity scorecard approach and method to measure farm biodiversity – including grassland species diversity, fresh water, woodland diversity, hedgerow quality, and mosaic habitat. Albeit not unique to organic farming, it is a strong start to measure practicality and the success of interventions.

The key message was to "think diversity of vegetation, think diversity of structure (heights, widths), and think connectivity". There was enthusiasm to walk through this process as a farm case study.

MARGINAL LITRES

Jim Baird, Independent Dairy Group Facilitator and dairy farmer proved another excellent project partner. High value discussion resulted in confidence to commit to 3-action areas per farm.

Identifying the 'sweet spot' in production of marginal litres per cow was a key focus area of the benchmarking group. In economics, this is where the incremental increases in cost as you produce more litres per cow meet the value of the milk.



Since marginal returns (MR) don't vary much in milk production the emphasis is on managing costs per litre. Marginal costs (MC) are typically a U-shaped curve. This is because your marginal cost for each additional litre of milk sold will generally be less than the one before it until you hit the optimum production level. After that, the additional cost or effort needed to produce each additional unit (in this case, a litre of milk) will see your marginal cost creep up and the net value of each additional litre diminish.

This may still be acceptable to the farm business as each additional litre may be more expensive to produce but is ultimately still adding profit margin (+ve). At some point, however, the incremental increase in the cost of each additional litre of milk will meet the market value of that litre. This is where marginal return equals marginal cost (MR=MC). After which, each litre starts to erode enterprise margin (-ve).

Finding that 'sweet spot' (MC=MR) depends on many factors, including the value placed on family labour. Capital investment needs are also a concern if marginal litres per cow start to change the production system and increase borrowing. Discussion also started to explore opportunity cost; time may be better spent elsewhere than chasing ever diminishing margins per litre of milk.

The organic dairy sector has some unique considerations such as the cost of purchased organic feeds. This needs to be developed further, being the first time Scotland's organic dairy farms have had detailed group discussion.

INCEPTION YEAR OBSERVATIONS

This inception year project's primary aim was to set up, familiarise the group with the process, and establish a baseline. This has all been achieved. The quality of conversation and cohesion built on trust derived from the familiarity of being an existing SOMP member or being a common interest group with a recognise need has created a highly functioning group, which has been inspiring.

Organic dairy producer discussion on biodiversity raised some exciting opportunity to trial the methodology and test some simple metrics.

The technical/financial benchmarking group prioritised the need to understand costs and establish a baseline. Supporting investigation of common action areas can accelerate progress.

Re environmental efficiency: MACC recommendations identifies that growing beans and pulses has real opportunity to lower the farm carbon footprint. Understanding costs and the potential to grow or contract grow in Scotland raises a very interesting demand led question for the wider organic sector to displace imported proteins.

A common theme of the benchmarking group identified marginal litres and what that means for their businesses. The issue of how we value family labour or opportunity cost of doing other things also influences this equation. No two businesses or years are the same but it would be advantageous to explore how we might best help satisfy this question.

WITH THANKS

Having the right project group dynamic and project partners has been crucial to ensure both specialism and facilitation skills that both inform and support discussion, to empower the group, after all it is producer action that will deliver the desired results.

And with thanks to Scottish Government KTIF funding, which is so important to de-risk and instil producer confidence to lay the foundations that support action – especially in the tender inception years.

Note on lead: SCOTTISH ORGANIC MILK PRODUCERS

SOMP is a co-operative representing all organic dairy producers in Scotland. Its primary purpose is to share best practice supported by projects such as this and to raise awareness of the benefits of organic production and organic dairy produce amongst consumers. SOMP currently represents 21 members (c.90% of organic milk produced in Scotland) who supply all processors that buy Scottish organic milk. Although, all this project was open to all organic dairy producers. SOMP reflects a breadth of herd management systems and are geographically spread from Inverness to the Scottish Borders, and Fraserburgh to Stranraer.

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