

You Are What Your Food Eats:

Land Use, Climate Change & Food

Recommendations by SEDA Land



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Overview: *You Are What Your Food Eats: Land Use, Climate Change & Food*

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You Are What Your Food Eats: Land Use, Climate Change & Food

An event held at Knock Farm, Huntly on 28th February 2024

Chaired by

Kirsty Tait, Food, Farming & Countryside Commission

Farm Tour

Roger Polson, Knock Farm

Lorna Dawson, SEFARI Gateway & James Hutton Institute

Andrew Barbour, Mains of Fincastle

Panel Members

Wendy Russell, SEFARI Gateway & Rowett Institute

Lorna Dawson, SEFARI Gateway & James Hutton Institute

Kim Postlethwaite, Aberdeenshire Council

David McKay, Soil Association Scotland

Bob Yuill, SAOS

Andrew Whitley, Bread Matters

Artistic Pieces

Sarah McFadyen, musician

Dawn McLachlan, poet

The full Conversation and short film can be viewed from [here](#)

This series of Conversations was funded by the *Scottish Government Climate Change Engagement Programme* and *SEFARI Gateway*, and was organised through collaboration between SEDA Land, The James Hutton Institute and Scotland's Rural College.



KEY FINDINGS

- 1. Increasing awareness of the benefits to be gained from sourcing food locally.** There is a need for greater awareness of the importance of sourcing food and food products locally, reflecting the benefits to consumer health, and helping boost local economies and achieving Net Zero. Some such benefits are referred to in the national *Good Food Nation Plan*, but there is a need for the Scottish Government to be explicit and help quantify, communicate and educate the scale and range of such benefits to consumers across Scotland with the aim of changing behaviour around healthy and nutritional food.
- 2. Increasing opportunities for Local Authorities to procure food locally.** Scottish Government should ensure that Public Procurement Regulations are revised as a matter of urgency, to take account of the different national and international situation post-Brexit, and to realise the national *Good Food Nation Plan* ambitions. The types of changes that would help or encourage Local Authorities to use more local suppliers include: increasing the use of Dynamic Purchasing Systems in food procurement to encourage more local suppliers to consider public sector contracts; developing more national Framework Agreements with direct suppliers; developing more regional Framework Agreements; providing clear guidance as to how Local Authorities could utilise these different approaches while staying within the rules.
- 3. Improving the capability of producers to supply food locally.** Suppliers need to consider how best they could collaborate to meet Framework requirements on product quality and regularity of supply. Scottish Government should liaise more with producer groups and Local Authorities as to how best this could be achieved. The Scottish Government, working with Local Authorities, should conduct a feasibility study into the best locations of local/regional hub(s) for vegetable processing and distribution and how they can be supported.
- 4. Diversifying crop types and making more use of marginal land.** Given ongoing climate change, there is a need to ensure that crops produced in Scotland are better adapted to those changes, and can play an important role in improving dietary health. The use of, and markets for, novel crops - such as buckwheat and hemp (which can grow on marginal land with minimal fertiliser and no pesticide or herbicide applications) – merit consideration within the Scottish Government's Strategic Research Programmes (e.g. 2027-32).
- 5. Improving the ability of producers to supply meat products locally.** As abattoirs are not distributed evenly across Scotland, there is a need to encourage greater coordination between farms when sending livestock for slaughter. Scottish Government could alter the terms of grants to require abattoirs to accept small numbers of livestock (e.g. private kill) which would then be returned for further on-farm processing and sale locally. Scottish Government should help the deer sector and processors market, mainstreaming the use of venison and encourage greater procurement of venison by Local Authorities.
- 6. Breaking-down policy silos.** Consistent with other SEDA Land Conversations in this series, all land use and food-related policy developments need to be joined up to help ensure that Scotland's biodiversity loss is reversed, and net zero ambitions are achieved. A specific example from this conversation is that Scottish Government should develop and mandate minimum standards for breadmaking grains, flour and everyday breads. Ensuring such standards address nutrient density, digestibility and local accessibility in the context of emissions reduction, biodiversity enhancement and diet-related public health improvement would show willingness to deliver on the aspirations of Scottish Government's national *Good Food Nation*.

FOCUS

“Citizens want businesses and Government to take action on food.”

The “*You Are What Your Food Eats*” Conversation investigated the long-term effects of land-use decisions on climate change and the food chain and, in particular, which crops can be grown locally, by traditional or alternative methods, to provide the nutrition for a healthy diet.

The farm tour and panel discussion looked at how value could be added to the food supply chain around Huntly and Scotland more widely, to enhance resilience and health equity. The intention was to identify barriers and propose solutions to achieving a fair and just transition to net zero with a particular emphasis on Scottish Government policy.



Lorna Dawson, James Hutton institute,
uncovering worms

DISCUSSION

Huntly was chosen as a location for the Conversation because of its long history as a focal point for food products from north-east Scotland, especially – but not exclusively – through the annual *Huntly Hairst* festival celebrating food and local traditions. This heritage provided a valuable context for sharing perspectives on land use, climate change and food.

The Scottish Government’s *Good Food Nation Plan* sets out high level ambitions that: the people of Scotland can access and enjoy locally produced food that keeps them happy and healthy; Scotland’s food industry continues to thrive and grow; the Scottish environment is protected, biodiversity loss reversed, and our net zero ambitions achieved; and, being a *Good Food Nation* enables flourishing rural and coastal communities across Scotland.

To achieve this will require the Plan to be properly embedded in a cross-policy approach to food policy, and require some major challenges within the current food system in Scotland to be addressed:

- In Scotland – as in other developed countries – 70% of people are dying of diet-related diseases, with a tension between affordability and nutritional value of the food consumed in the general Scottish diet. Changing Scotland’s food system to enable greater access to more nutritional and affordable food will be fundamental to enabling dietary and health changes.
- Approximately 8% of Scotland’s land area is capable of growing good quality arable, fruit and vegetable crops. There is a need to use that land to better effect to produce food for direct human consumption. However, ongoing climate change means there is also an increasing need to consider climate resilience as much as yield when choosing what crops to grow on that land.
- Increasing production of locally sourced, high quality food will require better use to be made of more of Scotland’s land. Currently, the primary use of marginal land is for grazing by livestock; red meat, if consumed in moderation, is an important component of human diets. However, there are a number of alternatives. For example, some such land would be suitable for the growth of novel crops (e.g. buckwheat); habitats managed for wild or farmed deer with an aim of increasing the amount of Scotland sourced venison in the Scottish diet; or, increasing the availability of wild foods – such as mushrooms and herbs - sourced from within Scottish woodlands.
- Increasing access to enough locally sourced, high-quality food to make a difference to diets at the local/regional level will ultimately depend upon improving local/regional processing infrastructure across Scotland’s rural areas. For those preparing and supplying food to consumers (e.g. in schools and hospitals) through Scotland’s public sector, it means ensuring that public procurement policies and regulations allow and encourage the sourcing of a greater proportion of local products.

At a Scottish Government level, the national *Good Food Nation Plan* means that all Scottish Ministers and their officials are obliged to consider how ‘planned policies and activities on food-related issues contribute to the national Good Food Nation Outcome’ and not in isolation. Relevant Authorities (currently identified as Local Authorities and Health Boards) are required to produce their own *Good Food Nation Plans*, taking due consideration of that wider policy landscape.

These obligations have the potential to ensure that future food policy works towards achieving shared ambitions. But decentralisation by Scottish Government - and especially empowering Relevant Authorities to support and enable more local food producers and make more use of local food products – is a key requirement.

BARRIERS

The cultivation of minor crops, such as buckwheat and hemp, provide opportunities to create new products and value chains. However, small retail businesses specialising in such products need a supportive market. A lack of means of support for such business can limit their prospects of success. In 2019, a Heritage Bakery was established by Deveron Projects with the aim of providing opportunities to encourage local participation in the process of baking sourdough bread from local organic wheat growers. By the end of 2020, the initiative had developed into an independent Community Interest Company. At the end of 2021, it was taken on by a local chef who operated it a

few months. Although there was a demonstrable need and demand for the bakery products within the local area, ultimately the initiative failed.

Public procurement has the potential to enable public authorities, such as the three local authorities with greatest influence on the Huntly area (Aberdeen City, Aberdeenshire and Highland) to source local food products from across north-east Scotland. Products do, however, need to be purchased compliantly and procedures need to conform with national and international regulations. These, together with the obligation to seek best value for money (based on quality and price), currently limits how much food products can be sourced locally.

Individual local food producers encounter difficulties in operating with the public procurement system. Challenges arise in terms of meeting the amount and regularity of supply required by Local Authority contractors, and because many such contracts also require the producer to deliver the products directly to the point of use (such as an individual school).

Local or regional food processing and supply centres in Scotland's rural areas could help address both of the later issues, but the lack of such infrastructure is currently constraining the ability of producers to cooperate such that they can meet public procurement requirements. This could help achieve the aims of the Scottish Government Strategy '[Local Food for Everyone: Our Journey](#)', published in January 2024, Pillar 3 on Harnessing public sector procurement.

The Soil Association's *Food for Life Programme* works with Local Authorities across Scotland and the UK to support schools, nurseries, caterers and communities to embed a good food culture within their settings and beyond. However, the current financial squeeze on public-funding means that, for example, farm-assured meat costs more than can be sourced via other routes. This limits the abilities of Local Authorities to participate in the programme, despite the health benefits to consumers and the wider environmental benefits on the farms producing the meat.

Potentially, some of these public procurement constraints can be addressed at the Local Authority level. For example, it is the Local Authorities which sets the quality standards when deciding on best value for money. There is scope – within funding constraints – for authorities to increase the weighting given to nutritional levels when setting quality standards.

Many of these constraints can only be addressed at a Scottish Government level, particularly by ensuring that existing and any new food-policy developments are compatible with the [national Good Food Nation Plan](#), [Local Food Strategy](#), and associated policies such as the draft of [Scotland's National Adaptation Plan](#), and [Scotland's Biodiversity Strategy 2022-45](#).



Roger Polson, Knock Farm



David McKay, Soil Association Scotland

SOLUTIONS

1) Increasing awareness of the benefits to be gained from sourcing food locally.

There is a need for greater awareness of why sourcing food and food products locally is important. This is in terms of the benefits to consumer health – important as that is – and in terms of helping boost local economies and achieving net zero ambitions (through, for example, carbon savings in food transportation). Some of these benefits are referred to in the [Good Food Nation Plan](#), but there is a need for Scottish Government to be more explicit and help quantify, communicate and educate the scale and range of such benefits to consumers across Scotland to change cultural behaviour around healthy and nutritional food.

2) Increasing opportunities for Local Authorities to procure food locally.

Scottish Government should ensure that [Procurement \(Scotland\) Regulations](#) are revised as a matter of urgency, to take into account the different national and international situation post-Brexit, and to realise the ambitions of the Scottish Government [Good Food Nation Plan](#). The types of changes that would help or encourage Local Authorities to use more local suppliers include:

- Most Local Authorities utilise Framework Agreements – operating at either a national or regional level – which set the terms and conditions for which compliant purchases can be made over a specified period of time. The nature and scale of such Frameworks usually mean that it is the larger, more centralised food product suppliers that are better placed to meet the scale and terms of the contracts.
- There is the potential for use of a Dynamic Purchasing System (DPS), although currently these are little used for food procurement by Local Authorities. The advantage of a DPS over a Framework Agreement is that suppliers can apply to join at any point during its lifetime. This makes it an effective route to market for buyers procuring specialist products and allowing relatively new suppliers access to public sector contracts. Such an approach may be an appropriate mechanism for encouraging more local suppliers to consider bidding for public sector contracts.
- The development of more national Frameworks with direct suppliers, i.e. producers who provide a product but do not need to undertake to deliver it to its final destination (e.g. a particular school), and the development of more regional Frameworks (where suppliers are drawn from within an area defined as local/regional).
- Greater support at a national level for encouraging local supply chains together with greater guidance from Scottish Government as to how Local Authorities could utilise these different approaches and frameworks while staying within the rules.

Consistent with recommendations in other SEDA Land Conversations is the need for Scottish Government to help decentralise decision-making and enable local stakeholders (in this case, Local Authorities and local suppliers of food products) to develop contracts at the scales relevant to their local needs.

3) Improving the capability of producers to supply food locally.

There will remain a need for suppliers to consider how best they could collaborate to collectively meet Framework requirements on product quality and regularity of supply. Potentially, there is a role for Scottish Government to liaise with producer groups and Local Authorities to explore how this could be achieved (e.g. by supporting a local facilitator who sits between the producers and Local Authorities or a project board using an existing entity such as a Development Trust).

The current lack of local/regional processing and delivery infrastructure needs to be addressed by the Scottish Government, in collaboration with Local Authorities. A feasibility study is merited into where any hub(s) for vegetable processing and distribution could be best located and supported. These could be Climate Action Hubs as envisaged in [Scotland's National Adaptation Plan](#), developed as social innovations.

4) Diversifying crop types and making more use of marginal land.

Given ongoing changes to the climate, there is a need to ensure that crops produced in Scotland are better adapted to those changes and play their role in improving dietary health. For example, discussions on the farm tour – see case Study below – highlighted that buckwheat can be used to suppress weed growth in fields, and that the consumption of products containing its flour can help reduce blood glucose levels in humans. Its root structure contributes to soil health, and is one of the emerging opportunities to deliver health-promoting climate change action as advocated in the Lancet Countdown on health and climate change (2023). The use of, and markets for, novel crops - such as buckwheat and hemp (which can grow on marginal land with minimal fertiliser and no pesticide or herbicide applications) – would merit further study within the Scottish Government's Strategic Research Programmes (e.g. 2027-32).

5) Improving the ability of producers to supply meat products locally.

Much of the Conversation on the day focused on arable, fruit and vegetable crops, but there were some concerns raised about the difficulties of making meat products available within a local food system.

A concern raised was the uneven geographic distribution of abattoirs across Scotland, which means that livestock from a farm may have to travel a considerable distance, with consequential concerns for animal welfare and carbon miles. It was highlighted that abattoirs are not operating full capacity, limiting the business case for additional facilities. Part of the solution would be to encourage greater coordination between farms in an area for the sending of livestock for slaughter.

A related issue is the unwillingness of existing large-scale abattoirs to accept small numbers of livestock (e.g. private kill) which would then be returned for further on-farm processing and sale locally. The majority of these abattoirs receive Scottish Government grants, which means that Scottish Government could alter the terms of grants to encourage abattoirs to process such livestock.

Venison is underutilised in Scotland. The Scottish Government is currently considering – through its *Managing deer for climate and nature* consultation – how legislation could be amended to make the processing of venison more accessible for smaller, local establishments. Together with the existing *Scottish Quality Wild Venison Assurance* scheme, this could support more venison products entering the food chain. However, there is also a need for Scottish Government to help the deer sector and processors market with the mainstreaming of use of venison, especially helping consumers understand it is a healthy, high-quality product, and encouraging greater procurement of venison by Local Authorities.

6) Breaking-down policy silos

Other Conversations in this series have continued to emphasize the fundamental point that all land use and food-related policy developments going forward in Scotland cannot exist in isolation. They need to be joined up and collectively help serve to ensure that Scotland's biodiversity loss is reversed, and net zero ambitions are achieved.

A recommendation from the Conversation is for Scottish Government to develop and mandate minimum standards for breadmaking grains, flour and everyday breads. Ensuring such standards addressed nutrient density, digestibility and local accessibility in the context of emissions reduction, biodiversity enhancement, diet-related public health improvement, and the right to food, would deliver to the aspirations of the *Good Food Nation*.

CASE STUDY: KNOCK FARM

Knock Farm is run as family partnership, farmed organically since 2006. It is a 535 ha mixed farm comprising a herd of 100 suckler cows, 550 breeding ewes, and grows about 75 ha of spring crop, mainly barley. There is approximately 25 ha of forestry and a horse livery on site. Two small wind turbines and a PV system produce electricity for farm use and sale into the national grid. The farm also sells stone, mainly for use in landscaping.

The rotational grassland/arable land is managed in a strict rotation of spring barley (2 years), spring barley and peas under-sown with a pasture mix, then five years in grass. The grass is also managed in rotation being grazed with sheep in year one, silage in year two, grazed with young cattle in year three, cows and calves in year 4 and sheep again in year 5. The overall objective is to establish and maintain good productive cover, minimise a build-up of parasites that affect the grazing animals, and build up fertility and organic matter in the soils.

The use of on-farm sourced manure is critical to the success of the system. This is prioritised to silage aftermaths, then first year cereal stubbles and finally 2nd year cereal stubbles. Maintaining a balance of crop, cattle and sheep is crucial to having sufficient farmyard manure to make the farming system work.

In recent years the farm has been experimenting with crops of buckwheat, primarily utilising the allelopathic properties of the plant. Experience of its use found it to have some positive effect on controlling the spread of couch grass, creeping thistle and other weeds.

Several carbon audits of the farm have been carried out over the last 13 years. Although the science continues to evolve, the farm is reasonably confident that as a unit of land it sequesters more carbon from the environment than the business emits.



Buckwheat crop



Knock Farm

ARTISTIC PIECES

Seed

A poem by Dawn Mclachlan

I In this capsule there lies a story
An ancient tale of seasons passed
And golden glory
Plant spent
bloom faded
past time weathered to hardened skin
that speaks in hushed whispers
of the tale within
of soil
and rain
and sun
and oncoming seasons chorused through by insect hum
and another year that's yet begun

It tells a story of a fragile seedling
That survived the odds.
And springtime's needling
As it stretched for the sky
revealing our hopes
and reasons why we dream of the harvest
After all our shared challenges
there now remains this seed
and in the circle of this long story
of the battles fought and won
within this small hard casing
is the story yet to come

She Rises Early

A poem by Dawn Mclachlan

She rises early to walk
Stepping out alone into the deep blue
Of frosted dawn
And far above the sky still yawns
 With stars
She pauses, button fumbling
Fingers rapidly numbing
Against the fabric of the day
She feels stitched
 by the icy needles of morning
Thin light puddles across the rutted field
Like jagged broken mirrors
Revealing pinpoint lights from distant crofts
Their golden punctuation in the dark rise of a hill
Cowled by winter's scarf still
Spring held at bay by the season's last gasp
She knows this way
Her footsteps on the ice are steady
 every day

A fox fixes a suspicious stare
Before flashing colour into the morning
Chasing after earth-brown hare
As the track ends and the open fields begin
Unseen creatures scatter within the tangled hedges
In the pall of morning light a blackbird sings
Its heart bursting with bright need
Above a skein pierces the horizon
With a thousand wings
And voices that bleed
Into another the rising morn
She shrugs her collar a little higher
Greeting cows stilled in the frozen byre
Their steaming breath plumes
And rises
And mingles with the mist
And sighs
As she rises early
 to work

Hey Dinner Lady

A song by Sarah McFadyen

I was waiting for my school lunch, standing in the queue
When I saw what was on the menu
Mud Pie Dinner, Mud Pie Dinner
I said "what's this noo? some dirt cheap stew,
Do you really expect me to gie that a chew?"
Mud Pie Dinner, Mud Pie Dinner

*Hey dinner lady
What's this you're serving me?
Hey dinner lady
What's this you're serving me?*

*Well it's anything but dirt cheap this dirt
This is the finest spade of earth
This dish is a rich mud cake cosmos
A most flavoursome universe*

I walked back to the table with my fork and knife
Holding onto them for dear life
And my Mud Pie Dinner, my Mud Pie Dinner
The other bairns were staring at their mud pie stew
And we all wondered what it was that we should do
With our Mud Pie Dinner, our Mud Pie Dinner

Hey dinner lady.....

So I took my knife and fork and I had a dig about
Then a worm said 'Hallo" when he poked his head out
Of my Mud Pie Dinner, my Mud Pie Dinner
I said "oooochy nooooo what a yucky gooooo,
How can I eat you? I think I'm gonna spew
In my Mud Pie Dinner, my Mud Pie Dinner"

Hey dinner lady.....

The dinner lady came over, said she thought it was wise
That us kids all get acquainted with the guys inside our pies
Our Mud Pie Dinner, Mud Pie Dinner
"I'm sure you'd like nothing better than sausage, beans &
fries
But to get that you need to learn to keep this soil alive"
Mud Pie Dinner, Mud Pie Dinner

Hey dinner lady.....

*Well it's anything but dirt cheap this dirt
This is the finest spade of earth
This dish is a rich mud cake cosmos
A most flavoursome universe*

Mr Worm showed us about of his mud pie house
Around the microbial confetti & the fungi spaghetti
Mud Pie Dinner, Mud Pie Dinner
We like to eat the dead things, old leaves & rotting sticks
Dead animals are juicy, we need them in the mix
Of our Mud Pie Dinner, Mud Pie Dinner

Hey dinner lady.....

"So do you get it yet? We are what your food eats
The number 1 ingredient in all your recipes
For your Mud Pie Dinners, Mud Pie Dinners,
And then when you die, you'll go into the sky,
But down into this earth you'll remain
Cause you're a Mud Pie Dinner, a Mud Pie Dinner"

Hey dinner lady.....

*Well it's anything but dirt cheap this dirt
This is the finest spade of earth
This dish is a rich mud cake cosmos
A most flavoursome universe*



I hold in my hand

A poem by Dawn Mclachlan

In my hand I hold the hours
And the power of our muscles that tilled the soil
I hold the work we have done this day
And the countless longer ones before it
As we readied this land for farming

In my hand I hold the seasons
And the reasons of the first green shoots of spring
I hold the lush growth of summer
and the voluptuous abundance of an autumn
That will roll into the long winter rest

In my hand I hold the years
And the fears that lurk as we nurture the tiny things
I hold the journey spent from fragile seedling
To great tree of shade and shelter
That will withstand the wind and rain

In my hand I hold Time
And the climb towards the nourishing light above
I hold the elements of all that went before
A physical memory
This tangible reminder
This dirty sod

In my hand I hold
The Earth

This Earth Is At The Heart

A song by Sarah McFadyen

Sandra's got a job in the fields
Working her nails is the deal,
She'll do anything for that dirty nailed look
Red painted nails she never did suit.

Sandra is looking for a fun guy (fungi)
With a decent plant root,
Some folks say she's a dirty nailed freak
But she's as fertile as the soil beneath her feet.

She gets her nails done through the week
So she's ready to go out Friday,
She's on a winning streak
That dirty nailed freak.

Sandra is the queen of the compost
Silt, clay or sand, she's your man,
Take her out for curry and talk about your slurry
Makes her a super flirt, she'll fairly cultivate your dirt.

She gets her nails done through the week
So she's ready to go out Friday,
She's on a winning streak
That dirty nailed freak.

This earth is at the heart of all of our good times,
This earth is at the heart of all of our good times.

Sandra likes a guy with a spade
A good seed sowing escapade,
Take care of this ground and watch it grow
And what springs up you never know.

She gets her nails done through the week
So she's ready to go out Friday,
She's on a winning streak
That dirty nailed freak.

This earth is at the heart of all of our good times,
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