

# Farming Profitability Review

Minette Batters



- **Lack of bridging finance for farmers to access active natural capital trades.** Entry costs for BNG, Nutrient Neutrality and soil carbon remain prohibitive to many smaller farmers.
- Farmers who are prepared to lead and experienced facilitators are the core solution to manage outreach and establishing groups... **Currently there is a small pool of these lead farmers with enough time;** they are, in the main, expected to operate pro bono which is not sustainable in the long term.
- Farmers **prefer** facilitators from a farming and environmental background, and these are often self-employed or in small firms, they cannot afford to up-front resource into grant applications etc.

## 7.4 Nutrition and diet of the healthy farmer – risks and solutions

### Executive summary

Poor diet and nutrition are major contributors to rising obesity and non-communicable diseases (NCDs) in the UK, costing the Government £18 billion annually. The UK National Dietary Nutrition Survey published in June 2025 shows widespread national non-adherence to healthy eating guidelines, with farmers reporting even lower compliance.

Farmers and farm workers are disproportionately affected due to a range of systemic and lifestyle barriers. These include:

- Cost of and availability of healthy foods
- Limited access and time for healthy lifestyle choices
- Poor mental health
- Marketing and positioning of foods

To address these challenges, targeted healthy eating and wellbeing interventions delivered by trained public health professionals through trusted rural and farming networks are essential. Policy must prioritise the affordability and accessibility of healthy foods in rural areas and restrict marketing of unhealthy products. Bold legislative action that takes into accounts the health of those living in rural areas is needed to build a food system that promotes both health and sustainability.

### About the authors

Dr Joanne Holmes is a Registered Nutritionist and Fellow of the Institute of Food Science and Technologists. She is also director of a large dairy farming business in West Dorset. She is currently senior lecturer at Bournemouth University (until 31<sup>st</sup> July).

Dr Sarah Hillier is a Registered Nutritionist and Programme leader of BSc Nutrition and MSc Nutrition and Behaviour at Bournemouth University.

### Introduction

Little research has been published about food consumption, obesity rates and non-communicable diseases (NCD's) indicators of farmers and farm workers in the UK, however there is evidence from global and national research and observations in the sector that they are no different to average trends. With increased mechanisation, farming is no longer the energy demanding job it once was. This section discusses the nutrition related health risks that are likely to be prevalent in this community in relation to national population evidence and global research from comparable sectors to draw conclusions and make recommendations for policy.

## **Background**

In the UK, poor nutritional health status is a major contributor to the growing burden of obesity and NCDs, including type 2 diabetes, hypertension, cardiovascular disease (CVD), and some cancers. The Government currently spends £18 billion on conditions related to poor diet and obesity every year. One in four adults over the age of 45 years has diabetes or a heart condition which impacts on ability to work productively (Dimpleby 2021). **To frame within the context of the farming population Van Doorn (2021) report that farmers in Ireland and Australia have increased risk of CVD with higher-than-average obesity rates.**

Evidence suggests a causal relationship between poor dietary factors and NCDs (Murray 2019) characterised by high consumption of ultra-processed foods (UPF's), saturated fats, free sugars, and salt, alongside low intake of fruits, vegetables, and fibre (Scarborough et al., 2020)

UK's healthy eating guidelines are outlined in the Eatwell Guide (NHS 2023), which promotes a balanced diet to support health and prevent chronic diseases. It recommends that over a third of food intake should come from fruit and vegetables, aiming for at least five portions a day, alongside starchy carbohydrates, preferably wholegrain (PHE, 2016). Moderate amounts of dairy or alternatives, protein sources (like beans, fish, eggs, and lean meat), and unsaturated oils are advised. Foods high in fat, salt, and sugar (HFFS) should be limited. Adults are encouraged to keep free sugars below 5% of daily energy, saturated fat low, salt under 6g daily, and red/processed meat below 70g per day (NHS, 2023).

Yet The National Diet and Nutrition Survey (NDNS) for England (2019–2023) highlights adults are not meeting the recommendations (Roberts 2025).

- Low fruit and vegetable intake with an average of 3.3 to 3.7 portions per day, with fewer than 1 in 5 (17%) meeting the 5 A Day recommendation. **Similarly, the Farmers Weekly Fit 2 Farm survey (2018) identified only 18% of farm workers eat the recommended intake of fruit and vegetables with 4% of respondents rarely eating fruit and vegetables (Tasker 2018).**
- 27% of men aged 19–64 consumed more than 90g of red meat daily. **Van Doorn (2021) showed 46% farmers ate red meat on most days, 36% add salt to their food and 60% ate fried food regularly.**
- Sugar intake exceeded guidelines, with free sugars making up 10% of total energy intake among adults—double the 5% recommendation. Sugar-

sweetened soft drink consumption peaked among men aged 19–64 years, averaging 108ml per day, with the highest consumers reaching 768ml.

- Saturated fat consumption was similarly high at 12.6%.

Poor nutrition does not act in isolation but intersects with broader determinants of health. There is some evidence adults living in rural areas are more likely to be overweight or obese (Stiebahl 2025). Among people with no qualifications, rates of excess weight are 9 percentage points higher than among people with level 4 qualifications or higher (a degree) (Stiebahl, 2025)

### **Challenges and barriers for farmers to meet healthy eating guidelines**

**Good health is pertinent to farmer livelihoods, but the evidence indicates they are likely to eat a poor diet and be at risk of obesity related NCD's due to challenges and barriers linked to lifestyle and working patterns because of:**

#### *Cost of and availability of healthy foods*

A diet rich in the recommended healthy foods are estimated by the Food Foundation (2024) to be more than twice as expensive as less healthy food. A fifth of the population on the lowest incomes would have to spend 45% of their available income on food to meet the requirements of the Government healthy eating recommendations, more for households with children. Shockingly, the Food Foundation Insecurity Tracking survey found that **25.5% of key workers in UK's food sector experienced food insecurity in the 6-month period to February 2023 (Food Foundation 2023)** with over 1.2 million people working in the sector earning below the Real Living Wage. Farm incomes are dropping and as 'direct payments' reduce (Defra 2025) a growing number of farmers and growers are struggling to earn enough to be financially viable (Riverford, 2024) **which suggests some farmers are part of this statistic.**

**Farmers are proud people and reluctant to ask for help but affected by low incomes, the cost-of-living crisis as well as Government policies they too are likely to be struggling with difficulties eating an affordable, healthy diet.**

**Additionally, farming is based in rural areas where long distances may have to be travelled to access food stores increasing cost further.** Often village stores will lack quality fresh fruit and vegetables preferring to stock longer life energy dense convenience foods especially HFSS (Seguin et al 2014). Therefore, those living in rural communities often have to rely on unhealthy energy dense foods.

#### *Limited Access and Time for Healthy Lifestyle Choices:*

Farmers often work long hours and have limited time for purchasing and preparing food. The average working week for farmers and farm workers is 65 hours FWI (2018), **impacting time available to shop and prepare a healthy diet.** Although little data is available of food consumption of farmers and farm workers specifically **it is recognised that long working hours and shift working** can disrupt the circadian cycle and impact lifestyle choices contributing to increased CVD risk (Silva et al 2025). Shift workers have been identified to engage in unhealthy behaviours such as higher

alcohol consumption, missing meals and reliance on unhealthy snacks (O’Geil et al 2020, Bayraktaroglu 2024). **Of concern for the future of farming are young adults who are particularly at risk of poor dietary patterns** (Hartwell et al 2022).

Poor diet is directly linked to poor cooking skills (Utter et al 2018). Easy access to cheap convenience foods and take aways decrease motivation to cook. There is a reported rise of poor cooking skills with growing concerns these skills will be lost in future generations with many young adults being brought up in households without food skills (Utter et al 2018, Adams 2015, Gaston et al 2024). A recent YouGov poll showed that 49% of males and 36% of women regard themselves as poor cooks and unconfident cooking from scratch with data shows that younger generations consider themselves poorer cooks than the older generation (Ibbetson 2022). Reduced nutrition and food skills and knowledge reduces confidence to prepare food from scratch and leads to poor food choices (Rees et al 2012).

Almost three-quarters (72%) of UK adults reported purchasing food or drinks from the out-of-home sector at least once in the previous week, most commonly 1–2 times, indicating the influence of convenience food options on national dietary habits (Roberts et al 2025). Out of home foods, and particularly the ‘take away’ sector are on average 21% more energy dense, HFSS and low in fibre (Nesta 2024, Huang et al 2022, Smith et al 2012).

**For farmers and farming families who are time poor, the impact of reduced cooking skills, meal planning and reliance on energy dense ready meals and take aways will impact on diet quality.**

#### *Poor mental health*

Mental health issues amongst farmers are of growing concern and regarded as being one of the biggest challenges facing farmers today (Tasker 2018). This can be further exacerbated by long working hours and lack of exercise. **Sixty percent of farmers do not exercise off farm (WCF 2019) exacerbating poor mental health and NCD risks.**

A diet rich in UPF’s can see a 21% increase in depressive symptoms (Adjibade et al. 2019). Conversely it is well recognised that a diet rich in fruit, vegetables, nuts and legumes and moderate consumption of eggs, poultry and dairy is associated with a lower risk of depression (Firth 2020). And yet food choices can often be affected by our mood and at times of stress the human body is conditioned to demand ‘comfort food’, that is often high in sugar, fat and salt and detrimental to positive wellbeing, creating a vicious circle of events that contribute to the poorer mental state.

**Farmers trust existing networks for support** and being more open about mental health is gradually happening in the sector. The Young Farmers organisation is making concerted progress in raising awareness, but young farmers remain vulnerable to poor mental health (Wheeler and Lobley 2021; 2022) as are women (Sato et al., 2020; O’Shaughnessy et al., 2022). **Farming networks provide opportunities to develop initiatives to support healthy eating and positive lifestyle changes to ultimately support individual management of health and wellbeing (for example Farming Community Network (FCN) breakfast and lunch clubs)**

## *Marketing and positioning of foods*

Consumers are influenced by colourful and eye-catching packaging and advertising contributing to quick purchase decisions (FSA 2023). Evidence shows that food marketing is associated with substantial increases in food intake and choice preference for targeted items (Boyland et al., 2022). 37% of supermarket promotions on food and non-alcoholic drinks are for HFSS foods. 36% of food and soft drink advertising is spent on unhealthy food versus just 2% on vegetables and fruit (The Food Foundation 2025). **Many farmers report wanting to undertake sedentary activities such as watching television in their downtime (Seguin et al 2014) making them susceptible to the advertising strategies used by food companies to promote UPF's and HFSS on our screens.**

## **Evidence of intervention programmes**

Farmers have been regarded as hard to reach with respect to health promotion interventions (Tasker 2018) and yet work completed by Kavanagh et al (2024) identified that there is a **demand from the farming community for targeted and accessible support**. Although to date all programmes have been short and no long-term benefits measured (Kavanagh et al 2024, Rees et al, Tasker et al 2018)

Intervention programmes should be designed to consider the purpose of the activity and well financed in the longer term. Implementation should be by well-trained Registered Nutritionists (AfN 2025) and health professionals through organisations trusted by the participants to ensure they are seasonally appropriate and promote social interaction to improve health (Kavanagh et al 2024). Specifically, Public Health Nutritionists develop, implement and evaluate nutrition policies and programmes, generating the evidence base and applying scientific knowledge to ensure understanding of the impact of food and diet on health and well-being of people and communities (AfN, 2025).

In addition to supporting individuals' health behaviour change, Registered Nutritionists and food scientists are integral to influencing policy decisions in international and national organisations. They bridge the gap between healthy eating and food production. Their wider knowledge of how the environment, social and economic events can impact food supply, food quality and availability are key to supporting farmers interact with the extensive food chain and live healthier lives. They should be involved implementing policies that promote healthy eating that is sustainable.

## **Recommendations**

Numerous reports have highlighted the challenges facing the food supply chain (The Food Foundation 2025, National Food Strategy etc). The current system of big business wishing to drive profit at the expense of the cost of health and wellbeing of individuals is creating an unlevel playing field for progressive businesses who wish to invest in health and sustainability. Food companies have a vital role to play in supporting public health. Government has a responsibility to take bold action to legislate and set parameters to enable a new model to deliver on health sustainability. The current plans simply do not go far enough.

Improving the balance of availability of healthy foods must become a priority for Government policy for all. This should include:

- Develop policy to ensure **healthy food is readily available and affordable nationally**, especially rural areas including advice on how to provide healthy options. For example, provision of frozen options to ensure longer life guarantees for smaller rural businesses.
- **Limiting marketing of UPF's and HFFS foods** in stores, on screens and in high streets by adopting recommendations from previous reports such as the National Food Strategy (2021) and Broken Plate Report (2024).
- Implement a **comprehensive food, healthy eating and cooking skills** education programme to all levels of the school education system including HE and FE.

And for the farming community specifically

- Encourage farming NGO's and charities to **implement evidence-based intervention strategy** designed and delivered by qualified registered nutritionists and health professionals to support farmers adopt healthy eating and wellbeing strategies. Ideally this should be through trusted support networks such as Young Farmers Clubs, rural community groups, FCN.

## References

Adams, J., Goffe, L., Adamson, A., et al. 2015. Prevalence and socio-demographic correlates of cooking skills in UK adults: cross-sectional analysis of data from the UK National Diet and Nutrition Survey. *International Journal of Behavioural Nutrition and Physical Activity*. 12 (99)

Adjibade, M. et al. (2019). Prospective association between ultra-processed food consumption and incident depressive symptoms in the French NutriNet-Santé cohort. *BMC Med*. Available at: <https://doi.org/10.1186/s12916-019-1312-y>

AfN. 2025. *What Nutritionists do?* Available online: <https://www.associationfornutrition.org/careers-nutrition/what-nutritionists-do>

Bayraktaroglu, E. Hizli-Guldemir, H., Eti, S. et al. 2024. The relationship between perceived stress and emotional eating in bus drivers: the effect of shift work. *International Journal of Food Sciences and Nutrition*. 75 (7) 707-716

Boyland, E., McGale, L., Maden, M. et al. 2022) Association of Food and Nonalcoholic Beverage Marketing with Children and Adolescents' Eating Behaviors and Health: A Systematic Review and Meta-analysis. *JAMA Pediatrics*. 176 (7). Available online: <https://jamanetwork.com/journals/jamapediatrics/article-abstract/2791859>

Coyne, A. 2024. *How do you soothe the UK food and drinks industry's labour pains?* Just-Food.com (Global News), 9/12/2024

Defra. 2025. *Farm Business Income by type of farm in England 2023/24*. Available online at: <https://www.gov.uk/Government/statistics/farm-business-income/farm-business-income-by-type-of-farm-in-england-202324>

Department for Health and Social Care (DHSC). 2020. *Mandating calorie labelling in the out-of-home sector: Government response to public consultation*. Available at: [https://assets.publishing.service.gov.uk/media/5f1ae0fb3a6f40727c229d06/Calorie\\_Labelling\\_-\\_Consultation\\_Response.pdf](https://assets.publishing.service.gov.uk/media/5f1ae0fb3a6f40727c229d06/Calorie_Labelling_-_Consultation_Response.pdf)

Dimbleby, H. 2021. *National Food Strategy – Independent Review*. London: National Food Strategy. Available online: [file:///C:/Users/holmesj/Downloads/25585\\_1669\\_NFS\\_The\\_Plan\\_July21\\_S12\\_New-1.pdf](file:///C:/Users/holmesj/Downloads/25585_1669_NFS_The_Plan_July21_S12_New-1.pdf)

Firth, J. 2020. Food and mood: how do diet and nutrition affect mental wellbeing? *BMJ* 369 Available online: <https://www.bmj.com/content/369/bmj.m2382>

The Food Foundation. 2025. *The Broken Plate 2025: The State of the Nation's Food System*. London: The Food Foundation.

The Food Foundation. 2024. *The State of the Nation's Food industry 2024*. London: The Food Foundation.

The Food Foundation. 2023. *Food Insecurity Tracking Survey 12*. London: The Food Foundation. Online available from: <https://foodfoundation.org.uk/initiatives/food-insecurity-tracking#tabs/Overview-of-surveys->

Food Standards Agency (FSA). 2023. *Consumer responses to food labelling: A rapid evidence review. Consumer Shopping Behaviour: Contextual Factors*. Available at: <https://www.food.gov.uk/node/10141#:~:text=For%20a%20comparison%2C%20recent%20estimates, times%20and%20other%20practical%20aspects.>

Gaston, M., Vaterlaous, J. & Wanago, N. 2024. Young Adults' Essential Food Skills and Cooking Perceptions: A Mixed Method Study. *Journal of Social, behavioral and Health Sciences*. 11 (1) 169-186

Hartwell, H., Bray, J, Lavrushkina, N., Lacey, J. et al. 2022. Identifying key factors that encourage vegetable intake by young adults: using the health belief model. *British Food Journal*. 126 (1) 443-470

Huang, Y., Burgoine, T., Essman, M., Theis, D. R. Z., Bishop, T. R. P., & Adams, J. (2022). Monitoring the Nutrient Composition of Food Prepared Out-of-Home in the United Kingdom: Database Development and Case Study. *JMIR Public Health and Surveillance*.

Ibbetson, C. 2022. *How confident are Britons in the kitchen?* Available online <https://yougov.co.uk/society/articles/43386-how-confident-are-britons-kitchen>

Kavanagh, R., Douglas, P. & Keaver, L. 2024. Qualitative Analysis Following the Delivery of a Farmer Lifestyle Program. *Journal of Agromedicine*. Available online: <https://www.tandfonline.com/doi/full/10.1080/1059924X.2024.2343400>

Make Your Mark Campaign. 2025. Available online: <https://www.igd.com/social-impact/people/articles/mmmake-your-mark-campaign-toolkit/50316>

Murray, C. et al. 2019. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet*. 393, 1958–72 Available online: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30041-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30041-8/fulltext)

Nesta (2024). *How eating out contributes to our diets*. Available at: <https://www.nesta.org.uk/report/how-eating-out-contributes-to-our-diets/#:~:text=Our%20findings,very%20unevenly%20across%20the%20population.>

NHS (2023). *Healthy eating and The Eatwell Guide*.

O'Neil, R., Savic, M., Ferguson, N. & Lubman, D. 2020. Shift-Work-Play: Understanding the positive and negative experiences of male and female shift workers to inform opportunities for intervention to improve health and wellbeing. *Australian Journal of Advanced Nursing* 38(2)

O'Shaughnessy, B.R., O'Hagan, A.D., Burke, A., McNamara, J. and O'Connor, S., 2022. The prevalence of farmer burnout: Systematic review and narrative synthesis. *Journal of Rural Studies*, 96, 282-292.

Purc-Stephenson, R. Doctor, J. & Keehn, J. E. 2023. Understanding the factors contributing to farmer suicide: A meta-synthesis of qualitative research. *Rural and Remote Health*. 23 (3) available online: <https://search.informit.org/doi/epdf/10.3316/informit.436931822250973>

Rees, R. Hinds, K., Dickson, K., O'Mara-Eves, A. & Thomas, J. 2012. *Communities that cook A systematic review of the effectiveness and appropriateness of interventions to introduce adults to home cooking*. London: EPPI Centre. Available online [https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/cooking%20R2012\\_rees\\_webversion\\_16032012.pdf?ver=2012-03-16-153509-913](https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/cooking%20R2012_rees_webversion_16032012.pdf?ver=2012-03-16-153509-913)

Roberts, C., Jones, K., Collins, D. et al. 2025. *National Diet and Nutrition Survey 2019-2023: report*. London: Office for Health Improvement and Disparities (OHID). Available online: [National Diet and Nutrition Survey 2019 to 2023: report - GOV.UK](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/118222/national-diet-and-nutrition-survey-2019-to-2023-report.pdf)

Riverford. 2024. *Farmers Against Farmwashing*. Available online: <https://stopfarmwashing.co.uk/>

Sato, M. Kato, H. Noguchi, M. Ono, H. and Kobayashi, K., 2020. 'Gender Differences in Depressive Symptoms and Work Environment Factors among Dairy Farmers in Japan'. *International journal of environmental research and public health*, 17, (7)

Scarborough, P. et al. 2020. 'Eatwell Guide: modelling the dietary and cost implications of incorporating new sugar and fibre guidelines', *BMJ Open*, 10(1), e036791. Available online: [10.1136/bmjopen-2019-036791](https://doi.org/10.1136/bmjopen-2019-036791).

Seguin, R., Connor, L., Nelson, M., LaCroix, A. & Eldridge, G. 2014. *Understanding Barriers and Facilitators to Healthy Eating and Active Living in Rural Communities*. Journal of Nutrition and Metabolism

Silva, A., Ribeiro, S. Nascimento de Fritas, S. et al. 2025. Food consumption patterns and Framingham cardiovascular risk score among shift workers: A Nova-based approach. *Clinical Nutrition*. 65, 238-245.

Smith, K. J., Blizzard, L., Naughton, S., et al 2012. Takeaway food consumption and cardio-metabolic risk factors in young adults. *European Journal of Clinical Nutrition*. 66, 577–584

Stiebahl, S. 2025. *Obesity Statistics*. London: House of Commons Library. Available online:

<https://researchbriefings.files.parliament.uk/documents/SN03336/SN03336.pdf>

Tasker, J. 2018. Fit2Farm: Why farmers need to eat better and exercise more. *Farmers Weekly* online available at: [Fit2Farm: Why farmers need to eat better and exercise more - Farmers Weekly](#)

Utter, J., Larson, N., Laska, M., Winkler, M. & Neumark-Sztainer, D. 2018. Self-Perceived Cooking Skills in Emerging Adulthood Predict Better Dietary Behaviors and Intake 10 Years Later: A Longitudinal Study. *Journal of Nutrition Education and Behavior*. 50 (5) 494-500

van Doorn, D.; Richardson, N.; Storey, A.; Osborne, A.; Cunningham, C.; Blake, C.; McNamara, J. 2021. Investigating the Dietary Habits of Male Irish Farmers to Prevent Mortality and Morbidity. *Safety* 7, 54. Available online: <https://doi.org/10.3390/safety7030054>

Wang D, Ruan W, Chen Z, Peng Y, Li W. 2018. Shift work and risk of cardiovascular disease morbidity and mortality: a dose response meta-analysis of cohort studies. *European Journal Prev Cardiol* 25(12) Available online: <https://pubmed.ncbi.nlm.nih.gov/29929393/>

Wheeler, R. and Loble, M., 2021. *Health and wellbeing of the farming community in England and Wales in the 2020s*. Oxford: The royal Agricultural Benevolent Institution. Available from: <https://rabi.org.uk/wp-content/uploads/2021/10/RABI-Big-Farming-Survey-FINAL-single-pages-No-embargo-APP-min.pdf> [accessed on 19 February 2023]

The Worshipful Company of Farmers (WCF). 2019. Health and Wellbeing Research Report. Available from: <https://assets.farmerslivery.org.uk/WCF-Health-and-Wellbeing-Research-Report-FINAL-April.pdf>