JNCC Report 813

Guidance for promoting and encouraging sustainable consumption in individual consumers

Annex 1

Factsheet: environmental impacts of fruit consumption and the case for eating seasonally

Morven Rae-Seaman

January 2026

ISSN 0963 8091

JNCC's report series serves as a record of the work undertaken or commissioned by JNCC. The series also helps us to share, and promote the use of, our work and to develop future collaborations.

For further information please contact:
JNCC, Quay House, 2 East Station Road, Fletton Quays, Peterborough PE2 8YY.
https://jncc.gov.uk/

Communications@jncc.gov.uk

This document should be cited as:
Rae-Seaman, M. (2026) Factsheet: environmental impacts of fruit consumption and the case for eating seasonally. *JNCC Report 813: Annex 1.* JNCC, Peterborough, ISSN 0963-8091.
https://hub.jncc.gov.uk/assets/fa69e53c-4f8f-4be4-9bf8-30df802e21b2

This document is compliant with JNCC's Evidence Quality Assurance Policy
https://jncc.gov.uk/about-jncc/corporate-information/evidence-quality-assurance/

Contents

Factsheet: environmental impacts of fruit consumption and the case for eating seasonally

Background

Fruit is a key component of a healthy diet. Now, global trade means that consumers can access almost any fruits at any time of the year, which comes with numerous environmental impacts. Since many fruits are imported, most of this impact is felt overseas, at the point of production.

To consume more sustainably, we need to shift consumption patterns towards consuming fruit **seasonally**. This means choosing more locally grown options, following what is available in each season. Additionally, 'in season' fruit is often fresher and tastier than fruit imported 'out of season'. You can check which fruit and vegetables are in season by using websites such as Eat Seasonably and the National Trust.

In this factsheet, we explore the different impacts of the most popular fruits in the UK and suggest how you can reduce your environmental impact by thinking about the fruit you consume on a daily basis.

What is in season when?

There is a good variety of fruit available throughout the year in the UK.

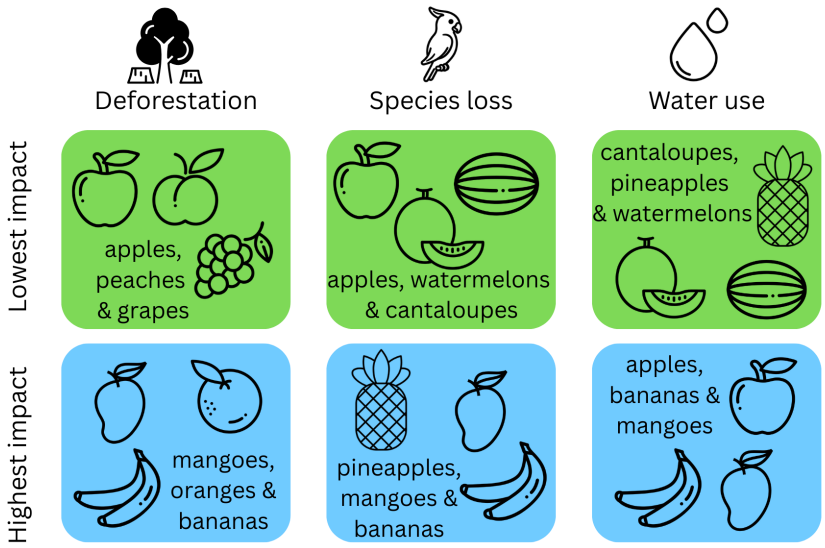
Seasonal Produce	**Seasonal Produce**
Spring (March, April, May) • Rhubarb • Strawberries • Gooseberries • Early cherries • Stored apples and pears	Summer (June, July, August) • Strawberries, raspberries & blueberries • Cherries • Blackcurrants & redcurrants • Gooseberries • Blackberries • Plums & damsons
Autumn (September, October, November) • Apples & pears • Plums & damsons • Some autumn-fruiting raspberries • Blackberries • Elderberries • Quince • Cranberries	Winter (December, January, February) • Apples & pears • Some forced rhubarb • Cranberries

Whilst fruit variety may seem concentrated in the summer months, there is fresh fruit available all year. Further, abundances of summer fruits can be frozen, or turned into jam, to continue enjoying year-round.

Overall impact of different fruits

Different fruits have differing levels of impact across different categories of environmental change. For example, apples lead to some of the lowest levels of deforestation and species

loss but can be water intensive. Mangoes have high impact across deforestation, species loss and water use (see Impacts in numbers section).



Domestic vs. international production

Many fruits are grown in the UK but are also imported from overseas at different points in the year so we can enjoy them year-round. However, the impact overseas is usually much greater than any environmental impacts from growing fruits domestically.

For example, most apples consumed in the UK are grown here, and producing 1,000 tonnes of apples in the UK results in approximately 5 square metres of forest loss. The second largest producer of apples consumed in the UK is Poland, where 1,000 tonnes of apples leads to approximately 20 square metres of deforestation. Another major producer of apples is New Zealand, where the environmental impact is much greater. Producing 1,000 tonnes of apples and importing them to the UK results in **2,000 square metres** of deforestation.

What can you do?

One way to reduce your environmental impact is to vary the fruits you eat across weeks or months. Impacts vary throughout the year, depending on seasonality, but we can average out for a rough example. An example swap is if everyone who lives in Manchester were to swap a banana for an apple, three times per week for a year, then approximately 14,700 square metres of deforestation could be saved. That's about twelve times the size of Manchester Cathedral!

You should not stop eating fruit, but gradual or small swaps here and there can really add up. Following the seasonal calendar can be a simple way to consume more mindfully and minimise your impact.

What are the other benefits to seasonal eating?

Financial	Eating seasonally is often cheaper, as when fruit is in season, it is often in abundance, resulting in lower costs of production and transportation. By focusing on locally grown, seasonal produce, you can support local farmers and smaller businesses. Look for special seasonal deals in supermarkets or try shopping at a local farmer's market for the freshest produce.
Health	Produce consumed in season tends to be fresher, higher in nutrients, and more flavourful, making it a healthier choice. Seasonal fruit also requires fewer preservatives or waxes needed for long-distance transport and storage. Eating a variety of fruit has further health benefits, since different fruits provide different levels of fibre, vitamins and antioxidants. Variety also keeps things interesting!
Lifestyle	Living more in tune with the seasons can contribute to a personal identity more closely linked to living sustainably, and encourage slower, mindful living in general. In turn, a slower pace of life can improve mental health and increase happiness levels. Focusing on seasonal produce can also unlock creativity. Making the most of different fruits could just lead to some new favourite baking or cooking recipes.
Energy	Beyond direct environmental impacts (such as deforestation, water use and species loss), a seasonal diet can reduce the amount of energy required in production and storage of food. Since food in season is eaten quickly, it doesn't need to be stored or kept at cool temperatures to keep its quality and freshness. This can help to combat the wider issue of global climate change by reducing carbon emissions.

A note on mindful consumption, identity and those around you

Consuming mindfully can help to solidify an identity as someone who leads a sustainable lifestyle, which can influence the people around you. Encouraging your friends and family to also make small swaps in this context can support you and them to make larger scale changes in the future. Starting with small, manageable steps will pave the way for an overall more sustainable future.

If you want to learn more about the environmental impact of your everyday items, have a look at the Global Environmental Impacts of Consumption indicator, published and updated annually by JNCC and partner organisations.

Impacts in numbers

We show standardised environmental impacts for the top ten fruits (by mass imported) in the UK. The three fruits with the lowest impact are highlighted in green, and those with the highest impact are highlighted in blue.

Fruit	Deforestation (m^2 per tonne per year)	Species loss (x 10^{-7} species per tonne per year)*	Green water use (m^3 per tonne per year)
Bananas	1.8076	9.979	914.44
Apples	0.0648	1.694	863.45
Grapes	0.3298	3.816	591.19
Oranges	1.0036	5.048	765.90
Watermelons	0.9163	1.678	282.12
Tangerines, mandarins & clementines	0.7836	2.423	441.76
Mangoes, guavas & mangosteens	9.2616	12.794	2,230.69
Pineapples	0.9911	7.455	309.09
Cantaloupes & other melons	0.5276	1.552	232.34
Peaches & nectarines	0.2879	3.339	794.60

* A note on species loss: This is the number of species predicted to become extinct resulting from land changes for fruit production. There is no time frame on when these extinctions are likely to be felt. The risk can be thought of as being shared amongst all species, and so individual species cannot be pinpointed as being 'at risk' using this metric.

Further reading (source list)

https://www.greenhub.tandem.co.uk/blog/the-benefits-of-eating-seasonal

https://www.phc.ox.ac.uk/blog/seasonal-fruit-and-vegetables

Macdiarmid, J.I., 2014. Seasonality and dietary requirements: will eating seasonal food contribute to health and environmental sustainability? *Proceedings of the Nutrition Society*, 73(3), pp.368-375. https://doi.org/10.1017/S0029665113003753

Régnier, F., Dalstein, A.L., Rouballay, C. & Chauvel, L. 2022. Eating in Season—A Lever of Sustainability? An Interview Study on the Social Perception of Seasonal Consumption. *Sustainability*, 14(9), p.5379. https://doi.org/10.3390/su14095379

Kunchamboo, V., Lee, C.K. & Brace-Govan, J. 2017. Nature as extended-self: Sacred nature relationship and implications for responsible consumption behavior. *Journal of Business Research*, 74, pp.126-132. https://doi.org/10.1016/j.jbusres.2016.10.023