

Advantages

- For orchard owners: sheep in orchards can reduce mowing costs and land rents can provide another source of income
- Sheep grazing can also increase nitrogen recycling within the orchard and could reduce orchard fertilisation costs.
- For a sheep farmer: apple orchards provide additional grass and thereby an opportunity to use other grass fields for hay or silage production



Apple orchard with electric fencing

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Assessment of financial benefits

The gross margin of separately managing a cider apple orchard and a grass field with 10 sheep was compared with a grazed orchard system. The analysis assumes that both the grazing land and orchard land are available on the same farm. Although the actual margins depend on the assumptions made, the table below highlights some key considerations. The grazed orchard analysis assumed that sheep had no effect on the yield or quality of the cider apples, but the reduction in grass mowing from three to one increased the apple gross margin by €55 (€560 rather than €505). The gross margin from sheep production was assumed to be the same (€365), except for the need to make the orchard stock proof (-€65) and the increased transportation of sheep (-€45). The greatest benefit from grazing the orchard (April to July) was that the non-orchard grass area could be used to produce a valuable crop of hay (+€290). Overall the grazed orchard system increased the margin from €870 to €1105, a benefit of €235.

	Ungrazed orchard and grass field managed separately	Grazed orchard and grass field managed together
Apple gross margin	€505	€560
Sheep gross margin	€365	€365
Stock-proofing the orchard		-€65
Increased sheep movement cost		-€45
Hay production gross margin		€290
Overall gross margin for 2 ha	€870	€1105

Indicative annual gross margins for the separate management of 1 ha of cider apple trees and a 1 ha grassland area with 10 sheep compared to those for 1 ha of a grazed orchard with a 1 ha grassland area. Values are based on the assumption that £1 is equivalent to €1.1. (Burgess et al. 2017)

Opportunity for joint agreements

It is also possible to construct arrangements where orchard grazing provides a profit for both the orchard owner and the sheep farmer. However, the maximisation of the financial benefit in such agreements requires the minimisation of contract and transport costs.

Further information

- Robertson H, Marshall D, Slingsby E, Newman G (2012). Economic, biodiversity, resource protection and social values of orchards: a study of six orchards by the Herefordshire Orchards Community Evaluation Project. Natural England Commissioned Reports, Number 090.
- Shropshire Sheep Breeders' Association (2008). Two Crops from One Acre: A Comprehensive Guide to using Shropshire Sheep for Grazing Tree Plantations.
- Burgess PJ, Chinery F, Eriksson G, Pershagen E, Pérez-Casenave C, Lopez Bernal A, Upson A, García de Jalon S, Giannitsopoulos M, Graves A (2017). Lessons learnt – Grazed orchards in England and Wales. AGFORWARD project. 21 pp.