

John Wilkinson and the improvement of moss land at Castlehead, Lindale from 1778 to 1808.

John Wilkinson, the famous iron master, was also responsible for a revolution in agriculture that was pioneered on his land at Lindale. He purchased land to the east of Lindale village, adjacent to his childhood home at Wilson House Farm, in about 1765 from the Turner family of Grange.¹ He built Castlehead on the north side of Castlehead Rock on the edge of the River Winster estuary. This article is going to look at John Wilkinson's agricultural experiments on this Estate. His involvement in the Industrial Revolution is well covered elsewhere.

Sir John Sinclair visited John Wilkinson at his Castlehead Estate in Lindale to learn about how he had improved moss land. He described the method used in an article published in *The Farmers Magazine* in 1805.²

It had been estimated in a report published in 1795³ that in Lancashire about 38,700 acres could be recovered from the sea at a cost of between £150,000 and £200,000. The current value was nil but after improvement the land would be worth £1,348,400. Mr Wilkinson offered £50,000 towards the cost as he had experience of the processes involved. He had been improving moss land on his Castlehead Estate since 1778. Other land owners were unenthusiastic and refused to support the scheme and it was abandoned.

The moss land at Castlehead, Lindale consisted of a top layer of about 5 feet depth of soft, spongy peat which made bad fuel. Below that was a black peat of better quality of at least fifteen feet depth. This rested on a base of blue clay which was infertile until exposed to air for a lengthy period. It was then used as a top dressing on grass land or when mixed with lime was ploughed in. Mixed into the moss were large quantities of old oak and fir trees which were perfectly preserved and were useable. When the spongy moss land was drained it had sunk between three and four feet. This land had very little value and had been offered as pasturing in frosty weather at three halfpence per acre but there were few takers.

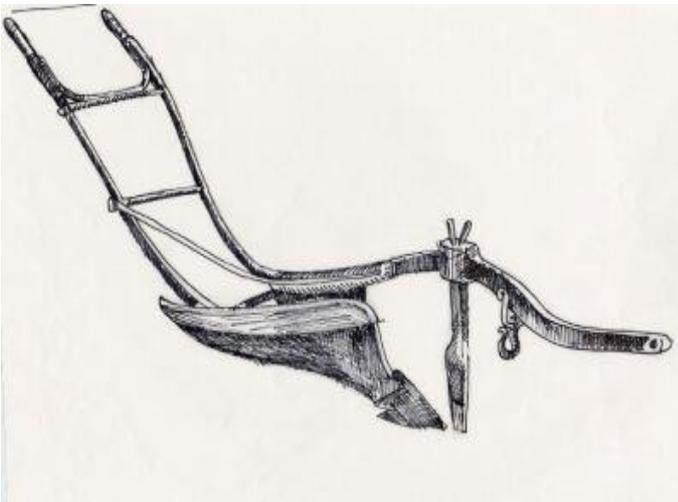


In 1778 work began by making four drains in an area of four to five acres. This did not work as they were too far apart and the moss did not drain. The surface was 'breast-ploughed, and then burnt'.

Labourer using a breast plough, 1882.
<http://lowres-picturecabinet.com.s3-eu-west-1.amazonaws.com/43/main/16/95220.jpg>
accessed 23 Dec 2016

Sod kilns were erected to burn lime to be spread on the moss, the surface of which had been cleared'. They then made 'large open drains to carry off the stagnate water and promote a consolidation of the moss' (main drains around perimeter). They also made small covered drains, using dried sods, set nine yards apart.

These are at least two feet wide and a foot deep with a long 'mouth' at the bottom which is 18 inches deep and four inches wide. Only the long mouth is left empty, the wider top ditch being filled with the dry sods. After consolidation of the moss, which took about two years, more covered drains were needed between the original drains and also across the original drains. These later drains were formed a foot to eighteen inches below or deeper than the earlier drains. A tom-spade was used to cut the drains and a sharp swing plough was the second piece of essential equipment.



A swing plough

https://pilgrim.ceredigion.gov.uk/utilities/action/act_download.cfm?mediaid=1462&stname=large_image

accessed 23 Dec 2016

An un-named instrument was used for cross cutting the surface before ploughing. 'Horse patten' were used when the moss was soft and were necessary on the hind feet especially when the moss was first ploughed. After many trials a circular 'patten' was found to be the most effective.



Horse patten used on marshy ground

<http://www.futuremuseum.co.uk/imageGen.aspx?image=%2Fmedia%2F16887%2F7474.jpg>

Mr Wikinson said that roads were necessary and he had been successful in making them over even the softest mosses.

After draining in the first year the heath was burnt and any hillocks cut off to make the surface suitable for ploughing. The moss was then ploughed seven inches deep and covered with clay or sand or 'mould (1000 single horse carts per Lancashire acre)' at a cost of £8 15s or 2d per cart and turnips were sown. In the second year a 'slight' ploughing took place, oats (preferably Scotch dun or Nanny pye) were sown and an excellent crop was obtained. In the third year the land was 'slightly' ploughed again, any clods were burnt and turnips were grown in drills. In year four it was ploughed again and oats were sown. Following the cutting of the oats a light compost was spread over the stubble, it was then ploughed 'slightly' again and winter rye was sown which also produced a good crop. In the following year, after the frosts, grass (in the ratio of ten pounds of trefoil, ten pounds of rib grass and six bushels of hay feed) was sown and rolled in over the rye. The resulting grass land was good for five or six years after which the grass needed renewing (by spreading at the rate of 40 Lancashire or 120 Winchester bushels of hot lime, per Lancashire acre, as hot as possible in July, followed immediately by being run over with a short, sharp-toothed harrow) but the land did not need ploughing. The advantage of this succession is that the crops pay towards the cost of improvement. Barley and potatoes had also been successful as has 'coleseed' (which I understand is rape seed).

It was found that neither lime nor dung had any effect on moss until it had become soil. 'Stagnate' water, called aide water in Lancashire, was injurious to animals. Ploughing and frosts helped the moss turn into soils as did exposure to sun. The moss must be killed before it can become productive. Burnt clay was better than lime or dung. An example was given that Low Canal Field, a four acre field, had been spread with burnt clay at a rate of 80 single horse carts per Lancashire acre and had then been mowed annually. 'It was the best meadow land for hay in the parish'. Burnt ashes were recommended for turnips as 'the fly never attacks the turnips where they have been manured with ashes, more especially if the feed has been pickled, as wheat usually is, previous to it being sown'.

Birch, alder, plane, black poplar and mountain ash thrive on moss land. Grass management must be 'tender'. Pasturing rather than mowing was preferred but sheep had not been tried. Galloway were preferred to Highland cattle which were light and fed quickly but the Galloways were tamer and did less mischief. Young cattle from the neighbourhood were put on the grass and that produced a good income. Following improvement the land would let at 30s to 40s per Lancashire acre and the land that has been longest improved let at double that amount. Mr Wilkinson had improved or was in the course of bringing into cultivation 500 Lancashire acres.

The writer felt that the success of the scheme could not 'find a parallel in any part of the United Kingdom'. Mr Wilkinson had furnished employment for many people and

produced much food. He had increased the value of 500 acres of waste from 2d to 30s per acre upwards.

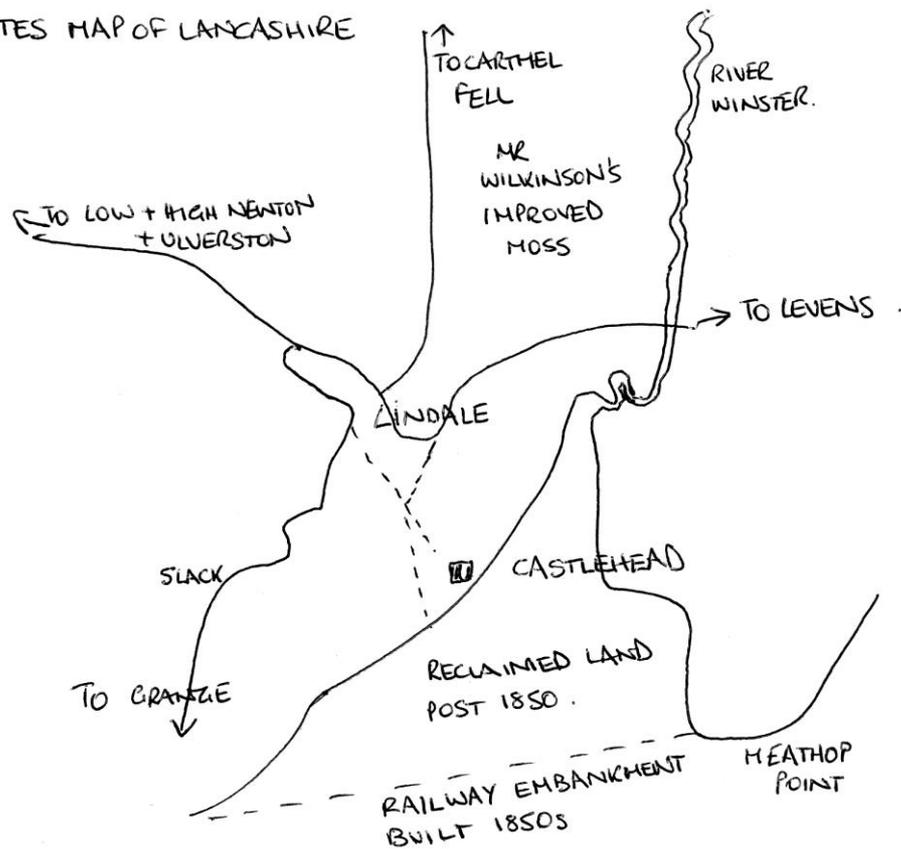
In 1807 it was reported that the crop of carrots from half an acre of improved moss land amounted to 9 tons, 4 hundredweights, 2 quarters and 16 pounds which were valued at 4s per hundredweight (total £36 18s). Four statute acres of potatoes produced 690 bushels.⁴

Having carried on the work of improving his land for 30 years, Wilkinson, in his will required his successors to continue his work.⁵ In an obituary it was claimed he was one of the first people in the world to set about improving moss land.⁶

Yates map of Lancashire published in 1786 shows the area between the Cartmel Fell Road and the River Winster as Mr Wilkinson's improved moss.

MAP OF LINDALE + CASTLEHEAD

BASED ON YATES MAP OF LANCASHIRE
1796.



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References

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2. Farmers Magazine volume 6 p322 An Account of the moss improvements of John Wilkinson Esq of Castlehead in Lancashire 1805; google books accessed 31 March 2016
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