Chicory and Woad:
A Comment

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Historians of the woad industry have noted that chicory or succory (Cichorium intybus) was grown in Lincolnshire during the nineteenth century in order to provide a constituent of a woad vat for use in dyeing wool. The basic constituents of such a vat were indigo, which made up the principal dyestuff, together with wood, bran and lime.  Chicory too could be made to yield colouring matter, but its main function when added to the vat was to promote chemical change by acting as an agent of fermentation. A similar function might be performed by certain other plants as well, and during the earlier years of the nineteenth century attempts were made to turn this property to commercial use. Thus the patent which the Leeds dyer George Nussey obtained in 1838, for what was described as a 'Vegetable Preparation for Dyeing Blue and other Colours', was designed to protect the use in a dye vat of 'certain plants and parts of plants which have not hitherto been made available for such purpose, namely, the leaves or tops of carrots and the stalks or stems and leaves of theadder plant'. A similar patent was granted in 1844 to David Metcalf, another Leeds dyer, though in this case the novelty was said to lie in subjecting the leaves of chicory 'to the same process of manufacture ... as has been heretofore applied to the leaves of the woad plant, in order to fit them for the dyer's use'. When treated in this way the leaves were crushed in a woad mill before being cooked, or fermented, in much the same way as woad itself. Metcalf did not indeed consider it necessary to indicate the details of his process when specifying his invention, since these were said to be identical with those already in use for the manufacture of woad.

When H. O. Clark and Rex Wailes investigated the history of woad in Lincolnshire in 1935 they found in the papers of the Nussey partnership, of Alkergirk and Sutton-on-Bosworth, near Boston, evidence that both carrot tops and chicory had been used in the way described in connection with the woad business run by the Nussey family from the 1830s onwards. They were informed by Mr. G. L. Nussey that chicory had been cultivated also at one time for sale to the coffee trade. However, the records then available appear to have persuaded these authors that the cultivation of chicory for purposes other than dyeing was undervaluing of further attention. 'Mr. Nussey states that (chicory) was used as an adulterant for coffee', they wrote, 'but there is no doubt that in 1845 it all went to (a quartet of dyeing firms in Lincoln and Wakefield)'. Among the recipients of Alkergirk 'mordant' were companies in the West Riding of Yorkshire run by George Nussey and by David Metcalf. The links with the textile industry thus demonstrated, Clark and Wailes may reasonably have thought that there was little more to be said by way of explanation for the presence of the crop in south Lincolnshire. A recent survey of woad in the same district appears to reach a similar conclusion.

The purpose of this note is to suggest that the well publicized association of chicory with woad has served to obscure its no less interesting role in what became known during the nineteenth century as the 'Chicory Question'.

The addition of chicory powder to coffee, as one contemporary observed, 'gave colour and taste to the beverage of the drinker, and at the same time saved the expensive coffee of the seller'. It was in these circumstances that chicory came to acquire about 1820 considerable notoriety as an adulterant. For many years the offending article was imported from abroad, principally from Prussia, France and the Low Countries. Although Arthur Young had conducted experiments with chicory as a fodder crop long before 1800, feeding its leaves to livestock, supplies of dried root were to come until the later 1830s entirely from the European mainland. From these a powder resembling coffee in appearance was prepared by roasting and grinding. The official response to a growing volume of imported chicory was to seek protection for the revenue by imposing in 1832 a Customs duty of 6d. per lb. on the roasted and ground product: imported chicory powder ready for use thus became subject to the same level of duty as British plantation coffee. The next step was to levy a duty of £20 per ton on the larger quantities of unroasted product known as kiln-dried chicory. While these measures ensured that chicory entering the country paid more than merely nominal duty, they did little to protect the grower against the activities of fraudulent wholesalers and retailers for whom chicory was a source of considerable profit. Dealers in coffee had been given permission in 1832 to sell chicory, provided that they did not themselves attempt to mix it with coffee. Such a regulation proved difficult to enforce and evasion was already widespread by 1840, when the restriction was lifted. Meanwhile, British farmers had begun to seize their opportunity, for while imported chicory was subject to a Customs duty, the equivalent product grown at home could be sold duty free. During the later 1830s and early 1840s farmers in several parts of the country, including Lincolnshire, were discovering how best to grow a profitable but unfamiliar crop and prepare it for sale to the merchants and grocers. Kilns for converting 'green' root into kiln-dried root began to appear on farms in the chicory-growing districts, while facilities for roasting and grinding were established where the kiln-dried product could conveniently be assembled, processed and distributed. These circumstances, no less than its specialized use in dyeing, were to stimulate the cultivation of chicory in Lincolnshire.

According to J. A. Clarke, writing in 1851, Alkergirk was one of several places, all within the fens, where chicory was then grown. However, it had been responsible for its introduction, Clarke does not say, though he does indicate elsewhere that 'a Yorkshire company' had been engaged in its cultivation in 1847. The firm in question was almost certainly the partnership of Yorkshire dyers, dyers, spinners and woolen interests which traded in Lincolnshire under the name of George Nussey and Company. Besides Nussey himself, the partnership included David Metcalf, John Parrar and Charles Lee, all of whom were in business either in Leeds or elsewhere in the West Riding. Lee had sold his interest in the company by 1845, leaving a triumvirate, which was to survive until Metcalf's death in 1867. Incomplete though it is, the record of this firm's involvement with chicory in the 1840s and 1850s is sufficient to reveal an interest in the crop that extended beyond its use in the dye vat to a share in an expanding market for home-grown root. The circumstances moreover suggest that Nussey and Company were among the pioneers of commercial chicory cultivation in the county.

To begin with the company's interest in specialised crops appears to have been confined to woad and carrots, but by 1843 chicory had been added to the list. As the records state, the crop was grown 'for Mordant or chicory' and, in
the early days at least, in accordance with directions received in Algar Kirk in a letter from ‘Mr Metcalf’. Metcalf’s information about the crop was apparently gleaned on the Continent, and consisted of both cultural instructions and cautionary remarks. Chicory was to be sown on a ‘rich & deep soil and after germination was to be weeded and thinned with care, much as you would do for the best culture of Carrots’. After the roots had been lifted in the autumn, they were to be washed and dried in kilns, ‘in which state the Farmers will sell...to the Manufacturers’.

‘The Manufacturers’, Metcalf went on to explain, ‘do no more than Roast the chicory as coffee is done and then grind it into a fine powder - a very simple process - but it is best for the Farmer to leave that to the Manufacturer - he has the Shopkeepers as Customers - Stills etc., which he can employ the whole year round’. Metcalf added encouraging remarks about the profitability of chicory and its suitability for inclusion in a rotation with wood.

Further advice about the crop was sought in the vicinity of York, where chicory had been grown on a considerable scale since about 1840. The partners may have had a contact there, for in 1843 they were able to record the date on which chicory root began to be lifted in Yorkshire, for comparison with experience at Algar Kirk, and also to acquire information on such matters as the price received by growers for chicory root delivered in York and the name of the principal chicory merchant in that city. As late as 1845 a representative of the firm, probably George Nussey himself, went to Gateshead near Gateshead, to collect information about the crop at first hand. Nor was it only information that was exchanged in this way: by 1846 the company had bought a chicory cutter in York and a special drill made in Dunnington, not far from the city. Such contacts reinforce the impression that in deciding to grow chicory Nussey and Company were embarking on a venture for which there were few prece- dents locally.

Most growers disposed of the crop’s leaves by ploughing them back into the soil after the roots had been lifted or by feeding them to livestock. Nussey and Company were unusual, by virtue of their background, in having some other use for them. The crop might indeed have been grown for the sake of its leaves alone simply by allowing the roots to remain undisturbed for more than one year. To have done so, however, would have been uncommon in the 1840s and would have involved the loss of income afforded by the then lucrative traffic in root. The use of the leaves apart, the company’s chicory business appears to have been run during the 1840s and 1850s along orthodox lines. After the roots had been dried in coke-fired kilns they were despatched elsewhere to be roasted and ground. Here too contacts in Yorkshire proved useful. Customers were found among the coffee roasters of London, Birmingham and Manchester, but considerable trade was done in Leeds, Huddersfield, Halifax and other West Riding towns. In reaching such distant markets, the process of kiln drying was of crucial importance, as it added value to the ‘green’ roots while reducing considerably their bulk and weight. Some chicory necessarily travelled overland, if only as a convenient railway station, but the proximity of the growing district to Boston and Fosdyke Bridge ensured that large quantities of both chicory and wood left the county by sea during the 1840s and in some cases reached their eventual destination also by subsequent transfer to canal or inland waterway.

Like wood, chicory was exciting in its labour requirements and the partners were understandably interested in the costs attributable to this source. Though rent and manure represented considerable items of cost, the labourious tasks of weeding, thinning and harvesting accounted for much of the total outlay on cultivation.

Objections to proposals to levy any form of duty on home-grown chicory were invariably countered in the growing districts by the assertion that to do so would bring ruin to an industry which provided employment for an unusually large number of workers per unit of land cultivated. Circumstances at Algar Kirk in the 1840s are entirely consistent with this claim. Besides evidence of careful preparation of the seedbed, they show that large numbers of men, women and children were engaged in forking, collecting and topping the roots in the autumn. Familiarity with the demands of a labour intensive system of cultivation may well have served the company when chicory came to be added to wood and carrots as an enterprise.

If the experience of other counties is a reliable guide, J. A. Clarke’s comments on the chicory industry were likely to have been compiled on the eve of a period of protracted decline. In 1851 chicory growing in Lincolnshire was said to be ‘extending every day’, in response not to the demands of the dyeing interests, but to serve the coffee trade. In 1854, however, the duty on foreign kiln-dried chicory was removed and in 1860 the home-grown crop was subjected to an Excise duty. Even so, George Nussey’s successors were able in 1887 to compare the costs of growing chicory at Algar Kirk with the similar costs incurred some forty years earlier, and in 1896 Lincolnshire was among a handful of counties where the crop was still grown. References to the use of chicory leaves in the dyeing industry suggest that Metcalf’s patent may long before this time have met with limited success. Whatever the truth of the matter, it is clear that the links between the woody and the chicory industries in the county were less straightforward than might at first sight appear.

Notes

2. (Charles O’Neill), Encyclopaedia Britannica (9th ed. 1877), vol. 7, sub ‘Dyeing’.
3. I am indebted to Mr. R. Broadhurst, the Curator of the Colour Museum, Bradford, for comments on this aspect of the use of chicory. The interpretation given here, however, is my own. There is a reference to the use of chicory in dyeing in J. H. Balfr, Class Book of Botany, Edinburgh (1855), p. 838.
6. ibid., p. 2.
7. op. cit., p. 91 ff.
8. ibid.
9. ibid.
10. Wills, op. cit., p. 20.
12. (H. Lethaby), Encyclopaedia Britannica (9th ed. 1875), vol 1, sub ‘Adulteration’.
16. A more detailed account of the regulation of the chicory trade will be found in A. Harris, ‘Chicory in Yorkshire: a crop and its cultivation’, Yorkshire Archaeological Journal (forthcoming).
20. ‘On the Great Level of the Fens’, J.R.A.S.E, 8 (Series 1,
1847), p. 117. Clarke, of Long Sutton, was the author of most of the article on chicory in Morton's Cyclopaedia of Agriculture.


25. The development of the industry in Yorkshire is traced in Harris, op. cit.


27. Ibid.


29. L.A.O., HD 25/31; 25/41; and trade directories.


34. Hansard, 117 (1851), column 518.
