

The Cluster Potato: John Howard's Achievement in Scientific Farming

By R. W. ENGLAND

JOHN HOWARD (1726-90) established his place in the roster of eminent English social reformers chiefly through his personal inspections of domestic and foreign prisons during his final sixteen years, and by publishing in several editions of two large books his massive and horrendous findings.¹ But his very fame as a prison reformer virtually eclipsed a reputation he gained as an experimental farmer. Save for a passing mention by his friend and first biographer, John Aikin,² none of Howard's chroniclers recorded a contribution he made to English agriculture of such singularity that it was publicized over many years in farming periodicals of the eighteenth century, and that he won a gold medal for it. Moreover, three articles Howard wrote on the matter have never been included in lists of his publications. This paper describes his contribution and the circumstances surrounding it.

The only son of a prosperous London upholsterer, Howard had been indifferently educated in Hertford and London. After coming into his patrimony in his early twenties he lived obscurely in and around the city until his second marriage, settling finally in Cardington, Bedfordshire, in 1762. The notable Bedfordshire shrievalty which started his career of prison inspection would not occur until 1773, but among several activities that engaged him during the decade preceding it was the discovery and promulgation of an unusual variety of potato.

The present writer came upon the facts

about the potato episode in course of following up a letter Howard wrote on 28 February 1771 to a neighbouring country gentleman, Arthur Young, of North Mimms, Hertfordshire.³

I Receiv'd Your oblidging favour; Our Cottagers have now got so much into the use of the American Potatoe I can hardly procure any from them, but I have some which are much at your Service with pleasure I shall send a Basket by our Coach a Monday (which I can more depend on than the Waggon) to be left for you at the Checquer at Hatfield.

Permit me now Sir to offer My thanks for the entertainment of your very ingenious and usefull labours, and the Honour you did me in the mention of my name. . .

Arthur Young, of course, was to establish a wide reputation as a traveling diarist, editor, farming expert, and writer on economic and foreign affairs, and would in 1793 become Secretary of the new Board of Agriculture. But in 1771 he was little known, and had recently moved to Hertfordshire from his mother's farm near Bury St Edmunds. Even so, he had already written a number of books including the first three of his famous agricultural surveys.⁴ The "oblidging favour" mentioned by Howard was probably his receipt from Young of a copy of one of the three, and the "Honour" probably Young's praise therein for Howard's role in building a certain causeway road in Cardington.⁵ An exchange

¹ *The State of the Prisons in England and Wales*, Warrington, 1777, 1780, 1784; *An Account of the Principal Lazarettos in Europe*, Warrington, 1789. Posthumous editions of both books were published in 1792 and 1791 respectively.

² John Aikin, M.D., *A View of the Character and Public Services of the Late John Howard, Esq., L.L.D., F.R.S.*, 1792, p. 40.

³ B.M., Add. MSS. 35,126, *Original Letters Addressed to Arthur Young, Esq.*, f. 92.

⁴ *A Six Weeks Tour through the Southern Counties of England and Wales*, 1768; *A Six Months Tour through the North of England*, 1770; *The Farmer's Tour through the East of England*, 1771.

⁵ *Six Months Tour* . . . , 2nd edn. 1771, I, p. 50.

of favours between gentlemen is not remarkable, but the letter did suggest that the two men were acquainted, presenting the further possibility that Young's letters or other writings contained material useful to a Howard biographer. This proved to be the case. A revealing passage in Young's journal describes their first meeting (which did not occur until 1772).¹

This year I visited Samuel Whitbread, Esq., at Cardington, in Bedfordshire, and as Mr. Howard, who afterwards became so celebrated in his philanthropy, lived in the same parish, Mr. W. took me to call upon him one morning. He was esteemed a singular character, but was at that time quite unknown in the world. He was then only famous for introducing a new series of potatoes into cultivation. We found him in a parlour, without books or apparently any employment, dressed as for an evening in London—a powdered bag wig, white silk stockings, thin shoes, and every other circumstance of his habiliments excluding the possibility of a country walk. He was rather pragmatical in his speech, very polite, but expressing himself in a manner that seemed to belong to two hundred years ago. I asked Mr. Whitbread if Mr. Howard was usually thus dressed and confined to his room, for he was as intimate with Whitbread as with anybody. He had never seen him otherwise, he said, but added that he was a sensible man and a very worthy one.

In view of Howard's busy Cardington life, we can take Whitbread's reply as alluding only to his costume, for the energetic Howard would not have much idled about. Whatever welcome additional data Young thus supplies about the philanthropist's eccentricities, Young's mention of "a new series of potatoes" led into a curious by-way of agricultural history.

Designated by colourful names, scores of potato varieties were being grown in England and Ireland by the mid-eighteenth century.

Potato-naming, a folkish and sometimes whimsical business, was unco-ordinated between sections of the country, the same variety often bearing different names in different places. The potato identified with Howard came itself to be known around Cork as both Bull and Bear, and in some English districts as Surinam, Ox-Noble, Bedfordshire, and Red Cluster. Ferreting from the voluminous agricultural writings of the period the facts on Howard's potato, Arthur Young had provided a lead by referring in his journal to a "Howard and cluster" potato.² (Simply "Cluster" became the name most commonly used.) Howard's potato enterprise occurred as part of the growing interest during the eighteenth century in science generally, and in agricultural science in particular. By mid-century there had been established on the Continent several agricultural improvement societies. England's counterpart, organized in 1754, was the Society for the Encouragement of Arts, Manufactures, and Commerce, to whose irregularly published *Memoirs of Agriculture and other Oeconomical Arts*³ John Howard, a member since 1758, thrice contributed.

Relatively rich in nutriment, readily grown even in poorish soil, and storing well, the lowly potato had potential as a cheap staple for the rural poor whose food supply was threatened by the accelerating enclosure of commons and common fields. But to eighteenth-century farmers a particular advantage of successful potato culture rested in the tuber's value as supplemental winter fodder for livestock, whose numbers had long been severely limited by farmers' straitened capacity to provide feed during the cold months. Carrots, turnips, cabbages, and potatoes were seen as possible winter provender and were much experimented with to this end in the eighteenth century. Because it was eventually learned that potatoes were the more nourishing and economical, during much of that century (and well into the next) boiled, baked, steamed, and raw potatoes were fed in the off-seasons to horses, sheep, poultry, hogs, and cattle,

¹ M. Betham-Edwards, ed., *The Autobiography of Arthur Young with Selections from His Correspondence*, 1898, pp. 59–60.

² *Ibid.*, p. 59, in reference to Howard's letter.

³ Edited by Robert Dossie; volumes of the *Memoirs* appeared only in 1768, 1771, and 1782.

greatly facilitating the maintenance of continuing stocks of animals. So the potato got considerable attention from "scientific" rural gentlemen, including John Howard.

There is evidence that Howard, about whose life before 1762 little is known, had been interested in science during his London years. Aikin and other contemporaries said that medical literature, astronomy, and experiments with primary colours had been among Howard's diversions; and he did, on three occasions, submit temperature readings to *Philosophical Transactions* in a day when even such casual study of "vapours" was regarded as furthering the science of meteorology. Though we cannot be sure that Howard's potato experiments reflected an attraction he might have felt toward experimentation itself, his procedures showed that he grasped the principle of control of variables, an understanding not always shown by other country gentlemen who reported their farming experiments.

His first research report, dated 21 December 1768, was entitled 'Memoir on the Qualities and Cultivation of a New Kind of Potatoe'.¹ Howard says that while "at Clifton, near Bristol" in 1765 he heard about an unusual potato "brought from America." After some difficulty he obtained roots, planting three sets that autumn and three the next spring in his Cardington garden. Harvested in the autumn of 1766, their yield in weight far exceeded that of his cottagers' usual potatoes, and he got "upwards" of "a waggon load" just from the trial crop. He had offered seed potatoes to all, receiving requests from his own and other counties.

Howard's experiments, which included careful trials with hillock-spacing, transplantation, soil types, and propagation with cuttings and whole tubers, continued through 1767 and 1768. Early the next year (15 February 1769) he had more to say in 'Additional Memoir on the New Kind of Potatoe &c'.² when he felt justified in concluding that the yield ratio of his plant over "common" potatoes was 3:1, and asserted that his experi-

ments proved the cluster potato to grow even in soil considered unsuited for that crop. Boiled, his potato was preferred over others by hogs; he himself had been eating them "well-boiled," and his dinner guests declared them tastier than others; roasting best brought out their flavour. Howard expressed hope that they would be "a help to a most valuable part of our fellow-creatures, the labouring poor in this kingdom."

What was John Howard's potato like, and how came it to win a prize? Robert Dossie, who strongly urged its cultivation, fortunately supplied answers. Aesthetically, the tuber was grotesque and somewhat repulsive. Dossie suggested that it be called the "Conglomerated Potatoe" because it "consists of a number of lesser tubers, or potatoes grown together; or is, as it were a cluster of several united with each other."³ Weighing between 4 and 5 pounds each, the ugly mutant was reddish inside, marbled with streaks of deeper red; only prolonged boiling could turn it white. It was extraordinarily prolific: even above-ground shoots produced miniature potatoes, and Dossie reports that one forgotten for two months in a dry room without soil or water sent out a "great number of small fibrous roots, and about sixty or seventy small tubers or potatoes of various sizes, from that of a horse-bean to that of a small pea."⁴ But its appearance, he suggested, worked against its acceptance for table use.

As to the prize. It was then a practice for planters to submit specimens of their husbandry to the Society for the Encouragement of Arts, Manufactures, and Commerce in competition for awards offered by this body. Samples of the cluster potato were received by the Society at about the same time, says Dossie, from two independent sources. One sample, which came from the Duke of Northumberland's garden at Syon, near London, was grown from tubers sent down by an unnamed Northumbrian gentleman who had noticed his tenants growing a strange potato; they surmized that it had originally washed on to the nearby coast with the refuse

¹ *Memoirs of Agriculture and Other Oeconomical Arts*, II, 1771, pp. 300-3.

² *Ibid.*, pp. 304-7.

³ Editor's comments, *ibid.*, p. 292.

⁴ *Ibid.*, p. 299.

from some passing vessel. The Syon products proved "heavier, more solid, and sweeter in their taste, than the common sorts."¹ Specimens were sent to the Society probably late in 1768, while Howard, Dossie tells us, sent his with his communication of 21 December that year. Howard's potato won. In words apparently drawn from a summary of a committee report, Dossie lauds it as highly prolific, nutritious, easy to harvest because of its shallow root system, requiring less land, doing reasonably well in indifferent soil, and relished by hogs; it is, he says, "a most important improvement in agriculture."² For this "improvement" John Howard was, in 1772, awarded the Society's Gold Medal, with the citation: "Clustered Potatoc, the Culture of this Kind rendered generally useful, John Howard, Esq. of Cardington, Bedfordsh."³

Perhaps encouraged by this honour, Howard contributed his third and final paper, dated 17 January 1772, entitled 'A farther Account of the Culture and Uses of the Cluster Potatoc: and Observations on the Prospect of Advantage in cultivating in England, the Maize, otherwise called the *Turkish or Indian Wheat*...'⁴ The future reformer thanks the Society for the medal, and continues to press the virtues of his unique plant. He has had, he says, good reports from growers in several counties, and that he "daily" eats bread comprised one-third of potato and two-thirds wheat flour, but admits that others prefer rather to feed the potato solely to animals. He had further experimented "on some poor clungey, common

field land, which I let at one shilling and sixpence per acre, without any manure, and only plowed when they are put in, in March,"⁵ obtaining a yield of 40 bushels from a half-acre, where other varieties would not, he says, have yielded one-quarter as much.

For some years thereafter the cluster potato received favourable mention in print. It was adjudged the "most extraordinary of all" potatoes in yield by a Lancashire experimenter.⁶ Thomas Butterworth Bayley, of the same county, found that his cattle ate it with "eagerness."⁷ Lt R. Hay of "Eggie" reported in 1775 that he used Howard's potato as winter feed, raw but "washed clean," for his horses, which consumed it "greedily."⁸ It was Arthur Young himself, however, who wrote most about the cluster potato, did the most experiments with it (winning thereby a silver medal) and delivered its strongest accolade. Between 1770 and 1784 he ran fifteen quite varied tests, after which he declared it "one of the most important articles that can at present be cultivated upon any farm."⁹

At least three more communications on the unique tuber were published in the 1780's,¹⁰ and in the mid-1790's the cluster potato, together with a few other varieties, received favourable official mention in a lengthy report on that vegetable published by the new Board of Agriculture. The cluster potato, said the report, was by then being grown in Lancashire, Kent, Suffolk, Sussex, and Ireland.¹¹ But it appears not to have been much adopted for human consumption, disappointing Howard's

¹ *Ibid.* ² *Ibid.*, p. 311. ³ *Memoirs* . . . , III, 1782, p. 450, list of prizes awarded in 1772.

⁴ *Ibid.*, pp. 305-11. Possibly Howard hoped for another coup with his ideas on the use of maize, but nothing came of them.

⁵ *Ibid.*, p. 306.

⁶ Richard Townley, 'On the Culture of Potatoes', *Georgical Essays*, 2nd edn, 1773, IV, pp. 23-53, 45.

⁷ T. B. Bayley, 'On the Howard, or Large Bedfordshire Potato', *Georgical Essays*, York, 1777, pp. 335-6. Bayley like Howard, was to become a prison expert; he would see erected in 1787 in Manchester a model gaol he instigated, and be much sought after as a prison consultant.

⁸ R. Hay, 'On the Cluster Potatoc', *Memoirs* . . . , III, 1782, pp. 312-13, communication dated 4 Nov. 1775.

⁹ Arthur Young, 'Howard or Clustered Potatoc', *Transactions of the Society for the Encouragement of Arts, Manufactures and Commerce*, III, 1785, pp. 30-99; 'Continuation of the Experiments on the Clustered Potatoc . . .', *ibid.*, IV, 1786, pp. 61-106. Quotation is on p. 106.

¹⁰ Hutcheson Mure, 'Value of the Cluster Potatoc, and of Carrots, ascertained in Feeding Hogs', *Annals of Agriculture*, I, 1784, pp. 124-7; Nathaniel Turner, 'Experiments on a New Potatoc', *ibid.*, pp. 189-92; Anon., 'Cultivation and Use of the Cluster Potatoc', *ibid.*, II, pp. 7-17.

¹¹ *Report of the Committee of the Board of Agriculture . . . Concerning the Culture and Use of Potatoes*, 1795, pp. 1, 49-50, 63.

philanthropic hope for it as a cheap food for the labouring poor.¹

By early in 1773 Howard had begun trials with another potato variety, informing the Society of Arts that results would not be known for two years.² But 1773 was also the year when his stint as sheriff of Bedfordshire

abruptly changed the course of his life from rural concerns to the plight of prisoners, and he apparently never again wrote on agriculture. Had his work in experimental farming not been interrupted, John Howard might have made a quite different kind of mark on his country's history.

¹ *Report of the Committee of the Board of Agriculture*, p. 137. See also Arthur Young, *A Tour in Ireland*, 2nd edn. 1780, I, p. 415; not even the poor in County Cork would eat it.

² Royal Society of Arts library, *Transactions 1772,73* (MSS.), f. 24, letter, Howard to secretary, 6 Feb. 1773.

NOTES AND COMMENTS *continued from page 125*

Dr W. H. Chaloner, Dr D. G. Hey, and Professor F. M. L. Thompson.

In her Chairman's report Dr Thirsk announced that despite the constant pressure of rising printing costs the Society proposed to hold its annual subscription at £3.50, and appealed for new members. The membership now stood at 792, a slight increase on 1975. Arrangements were in hand for the Winter Conference in London and for the Society's Silver Jubilee Conference on 4-6 April 1977. To celebrate this event it was proposed to offer a prize essay (for details see page 159). An arrangement had been made with University Microfilms Limited of High Wycombe to re-print all back numbers of the *REVIEW*.

The Treasurer reported that the balance of income over expenditure was only £96 compared with £967 in 1975 and that if printing costs continued to mount the Society would need to raise the subscription. However, with reserves of £4,100 in the bank the E.C. had decided to hold the subscription for another year.

The Editor reported that he had received 29 articles, of which he had accepted nine. He submitted proposals for reducing the cost of the *REVIEW* by redesigning its layout and typeface. He asked the meeting to choose between two typefaces, and after a vote, Bembo was selected. The meeting passed a vote of thanks to Mr Mark Overton of Cambridge University for organizing the Conference.

THE WINTER CONFERENCE

The Winter Conference will be held on Saturday, 4 December 1976, jointly with the Historical Geography section of the Institute of British Geographers. It will be held at the Polytechnic of Central London, and the theme will be on farming in and around London and other cities. All inquiries should be addressed to Mr Dennis Baker, The Polytechnic of Central London, 32-8 Wells Street, London W1P 3FG.

FOURTH INTERNATIONAL CONGRESS OF AGRICULTURAL MUSEUMS

The International Association of Agricultural Museums (AIMA) held its fourth Congress at the University of Reading on 5-10 April 1976. Fifty-seven delegates from 21 countries attended, and 41 papers were presented on the general theme of *The Impact of Industrialisation on Agriculture and Rural Life since 1800*. Prof. Dr Wolfgang Jacobeit, Director of the Staatliches Muzeen zu Berlin für Volkskunde, DDR, was elected President of the Association. The retiring President, Mr John Higgs, was re-elected to the Presidium as Vice-President. The next Congress will be held at Neu Brandenburg, DDR, in September 1978. The formation of a UK Standing Committee of AIMA has been proposed. For further information write to Andrew Jewell, Museum of English Rural Life, The University, Whiteknights, Reading RG6 2AG.