Crop Rotation: The Four Field System

Viscount Townshend successfully introduced a new method of crop rotation on his farms. He divided his fields up into four different types of produce with wheat in the first field, clover (or ryegrass) in the second, oats or barley in the third and, in the fourth, turnips or swedes. The turnips were used as fodder to feed livestock in winter. Clover and ryegrass were grazed by livestock. Using this system, he found that he could grow more crops and get a better yield from the land.

If a crop was not rotated, then the nutrient level in the field would go down with time. The yield of the crop from the field decreased. Using the four field system, the land could not only be "rested", but also could be improved by growing other crops. Clover and turnips grown in a field after wheat, barley or oats, naturally replaced nutrients into the soil. None of the fields had to be taken out of use whilst they recovered. Also, where animals grazed on the clover and turnip fields, eating the crop, their droppings helped to manure the soil.

The four field system was successful because it improved the amount of food produced.

Source: http://www.saburchill.com/history/chapters/IR/003f.html

Arthur Young on the new wave of agricultural improvement, 1804

(Arthur Young, *General View of the Agriculture of the County of Norfolk,* 1804, pp. 31-32; in A. Aspinall and E. Anthony Smith, eds., *English Historical Documents, XI, 1783-1832,* New York: Oxford University Press, 1959, pp. 469-70.)

In respect to their husbandry, the farming mind in this county has undergone two pretty considerable revolutions. For 30 years, from 1730 to 1760, the great improvements in the north western part of the comity took place, and which rendered the county in general famous. For the next 30 years, to about 1790, I think they nearly stood still; they *reposed Upon their laurels.* About that period a second revolution was working: they seemed then to awaken to new ideas: an experimental spirit began to spread, much owing, it is said, to the introduction of drilling; and as so new a practice set men to thinking, it is not unlikely: nothing can be done till men think, and they certainly had not thought for 30 years preceding. About that time also, Mr. Coke (who has done more for the husbandry of this county than any man since the turnip Lord Townshend, or any other man in the county), began his sheep-shearing meetings. These causes combined (for what I know, the former sprung partly from the latter) to raise a spirit which has not subsided. The scarcities, and consequent high prices, brought immense sums into the county, and enabled farmers to exert themselves with uncommon vigour. Experiments in drilling shewed that farmers might step out of the common road, without any danger of a gaol. South Down sheep came in about the same time. Folding was by many gradually given up. These new practices operated upon the farming mind; ideas took a larger range; a disposition was established, that would not readily reject a proposal merely because it was new-the sleep of so many countries. Every thing is to be expected from this spirit. Irrigation is gaining ground, in spite of the dreams that have been ventured against it. And if the men who occupy, or rather disgrace so large a part of the light sand district, by steadily adhering to those *good old maxims* which have preserved it so long in a desert state, shall once imbibe a portion of this ardour, we shall see new plants introduced, and new practices pursued, to carry the county in general to the perfection of which its husbandry is capable……

Sir F. M. Eden on Enclosure and the Cottagers, 1797

Sir Frederick Morton Eden, *The State of the Poor,* I, 1797, Preface, pp. xviii-xx in A. Aspinall and E. Anthony Smith, eds., *English Historical Documents, XI, 1783-1832*, New York: Oxford University Press, 1959, pp. 477. F. M. Eden's three volume study of poor law administration in England and Wales is one of the most important contemporary sources for the rural pauperization thesis that was widely held during the period.)

The advantages which cottagers and poor people derive from commons and wastes, are rather apparent than real: instead of sticking regularly to any such labour, as might enable them to purchase good fuel, they waste their time, either like the old woman in Otway's Orphan, in picking up a few dry sticks, or in grubbing tip, On some bleak moor, a little furze, or heath. Their starved pig or two, together with a few wandering goslings, besides involving them in perpetual altercations with their neighbours, and almost driving and compelling them to become trespassers, are dearly paid for, by the care and time, and bought food, which are necessary to rear them. Add to this, that as commons, and wastes, however small their value may be in their present state, are undoubtedly the property, not of cottagers, but of the land- owners; these latter, by the present wretched system, are thus made to maintain their poor, in a way the most costly to themselves, and the least beneficial to the poor. There are thousands and thousands of acres in the kingdom, now the sorry pastures of geese, hogs, asses, half-grown horses, and half-starved cattle, which want but to be enclosed and taken care of, to be as rich, and as valuable, as any lands now in tillage. In whatever way, then, it may seem fit to the legislature, to make those cottagers some amends for the loss, or supposed loss, they may sustain, by the reclaiming of wastes, it must necessarily be better for them, than their present precarious, disputable, and expensive advantages, obtained, if at all, by an ill-judged connivance, or indulgence, of the owners of land; and, by an heedless sacrifice of property, of which no one takes any account, and for which, of course, no one thanks them....

T. Brown, The effect of enclosure upon population, 1794

(T. Brown, *General View of the Agriculture of the County of Derby,* 1794, p. 35 in A. Aspinall and E. Anthony Smith, eds., *English Historical Documents, XI, 1783-1832*, New York: Oxford University Press, 1959, pp. 476.)

Those who have urged the impolicy of inclosures, from the idea that they depopulate, must have taken tip the matter on very superficial grounds. Ask any man if the planting, preserving, and rearing of hedges is not attended with much expense; and if, even after they are reared, whether the cutting and scouring, and keeping them up, does not require much attention and increase of labour? The dressing and keeping an inclosed field in a proper state of cultivation and improvement, is certainly equal to what is done in the common fields. In a word, I think no man will contend for a moment, that to cultivate and improve land after it is inclosed, requires less labour than it did in the common field state; nor that men will do more labour in a day than was formerly done. If my position be right, it will follow, that the number of hands employed cannot be diminished. I know there are places where common arable fields have been inclosed, laid down in pasture, and neglected; less ploughing done, and perhaps fewer labourers employed, after the enclosure; but this very rarely happens, for wherever enclosures are turned to the most advantage, I will contend they require an increase of capital, attention, and labour; and consequently that the number of labouring hands are not diminished. So far as any experience goes, enclosure in the first instance requires an increase of capital to be employed in agriculture; this capital renders the product of the land more abundant, and this abundance requires more hands to be employed. By the facility with which abundant produce is managed on inclosed lands, the additional capital employed makes its returns, so that there are more hands required, and more produce carried to market.