

in the subject, where there is no direct advantage to be gained:—

"The importance of accurately knowing the provision made for the maintenance of the people is surely not less than that of knowing the yearly produce of various articles of commerce, which are employed as accessories in manufacturing processes. * * * It would not be possible to calculate with any tolerable accuracy the loss in money which this country has sustained, through the want of information, thus shown with regard to only one year's operation; but we can have no hesitation in believing that its amount must have been at least sufficient, if employed at interest, to provide in perpetuity for every expense that could accompany the most completely organized machinery for collecting agricultural statistics throughout the United Kingdom.

It is well known, by every body who have made any extensive inquiries concerning the state of agriculture, as a science, in various parts of the kingdom, that the advances made in some countries have not been hitherto followed in others; and it has been stated, in illustration of this fact, that, if all England was as well cultivated as the counties of Northumberland and Lincoln, it would produce more than double the quantity that is now obtained. To what can this discrepancy be owing, unless it be to want of information, such as the public agent would collect in each county, and which could not fail to interest deeply every farmer throughout the whole extent of the kingdom. If the cultivators of land where agricultural knowledge is the least advanced could be brought to know, upon evidence that would not admit of doubt, that the farmer of Northumberland or Lincolnshire procured, from land of fertility not superior to his own, larger and more profitable crops than he is in the habit of raising, is it likely that he would be contented with his inferiority? The farmers of England have often been accused of an undue preference for the plans and processes employed by their ancestors, and their pertinacity in this respect has been contrasted with the rapidity that accompanies the march of improvement in mechanical and manufacturing processes. The reason for this difference is obvious. Manufacturers, residing in towns, are brought necessarily and constantly into collision; new inventions are continually brought under their notice, so that their results can be traced and judged with the greatest accuracy. Practical agriculturists, on the contrary, live apart; they come together but rarely, and have not that degree of acquaintanceship, the one with the other, which leads them, even when they meet, to the interchange of professional experience. If the result of a successful experiment should at any time reach their ears, they cannot be certain that all the circumstances connected with its prosecution have been faithfully detailed, or that the advantages ascribed to a new method may not be the consequence of accidental causes, such as a propitious season, for instance. Men are generally prone to doubt every thing that is not presented to their own observation, and this is especially the case with regard to improvements which imply the mental superiority of others over ourselves. The manufacturer, on the contrary, sees for himself, he is not called upon to take any thing upon trust; he can weigh and judge with the minutest accuracy all the circumstances of each case; and what he sees can owe no part of its success to other than human agency; what another has once done, he may always successfully imitate. The tendency of information, such as would be procured by the agency already described, would be in a great degree to remove the disadvantage in this respect, under which the farmer now suffers.—Results placed before him, upon such unquestionable authority, resting not upon a single experiment only, but upon the practice of hundreds of men placed in the same circumstances as himself, must be received by him as undoubted facts, and he must be driven to the adoption of whatever might come thus recommended, with an alacrity equal to that which we see exhibited by the manufacturer.

It is feared that the time is yet distant in which various classes of the same community will be willing to make the apparent sacrifice, each one of its own fancied advantages, on the altar of the

general good, with the conviction that the share each must obtain of that good will prove an ample compensation for the peculiar benefit that may be relinquished. The contrary principle seems at present to be held with the greatest tenacity. It is besides feared that, if the public should acquire knowledge of any such peculiar advantages, those who possess them would be exposed to have them invaded. The agricultural is, in this country, what is called a *protected interest*; our cultivators, consequently, appear desirous of excluding inquiries which might have the effect of weakening their claim to the continuance of that protection. This fear is altogether chimerical. In Belgium where the utmost publicity is given to every circumstance connected with the agriculture of the country, it has never been pretended that any advantage has been taken of that publicity.

The information which it appears to be so desirable to obtain with reference to the whole kingdom, is already easily procurable with regard to each individual farm, by any person who has a sufficient interest to instill him to the task. The landlord, who is interested in extracting a due proportion of the produce of a farm under the name of rent, cannot find much difficulty in correctly estimating that produce. A similar facility attends the operations both of the tithe-proctor and the parochial-tax gatherer. The knowledge is, in fact, already procurable by every one who can turn it to the disadvantage of the farmer; and that is wanted is to extend the information, so that the farmer himself may be placed in a condition to profit from its possession."

Working Oxen, or Spayed Heifers.

We have always been of opinion that oxen or spayed heifers, might be more profitably employed, both in the cart and plough, particularly the latter, in situations remote from our principal cities, than horses. They are less expensive to keep—they may be worked a few years, without the original value of the animal being materially, if at all reduced; and then fattened and sold to the butcher: whereas the farm-horse is much more expensive to keep, and soon begins to lose in value, and this deterioration continues from year to year, until he is completely worn out, and only worth the price of his skin.

We have seen spayed heifers worked at a ploughing match in the old country, and too without a driver, and performed their work in a shorter time, than most of the ploughs that was drawn by horses, of the very best description.—Spayed heifers, well selected, would answer in this country much better than oxen—they are faster, and will bear the excessive heat better.—In the old country, we were in the constant habit of using them, and found them to answer extremely well. In England, a considerable diversity of opinion exists upon the subject of employing oxen or horses in agriculture. Our own opinion is, that both should be employed on almost every farm in British America, that is over ten miles from our principal markets. Farmers in this country have not to travel so much upon hard roads as in England, and can better dispense with a large number of horses. One horse consumes the produce of as much land as would support five or six human beings, or perhaps more. By adopting a proper system of managing working oxen or spayed heifers,—having them to come to the yoke in regular succession, and fattening those that were becoming old, farmers might have most of their work, both of ploughing and carting, executed at much less expense than by horses. Oxen and spayed heifers, that have been worked for a few years, fatten readily, yield a large quantity of tallow, and make beef of the very best quality.

We have the means of selecting very suitable animals here for the yoke, and no doubt we might effect considerable improvement in our present stock of neat cattle, by careful breeding. In

England the Devonshire, and Sussex oxen are generally considered as unrivalled in the yoke, and are supposed to possess some of those qualities most desirable in working cattle; among which may be mentioned great quickness of action, docility and goodness of temper, stoutness, and a truth and honesty of purpose when at work, that many horse-teams cannot pretend to. Mr. Yonatt, a modern writer of much consideration, observes:—"The principal objection to the Devonshire oxen is, that they have not sufficient strength for unaccustomed clayed soils; they will, however, exert their strength to the utmost, and stand many a dead pull, which few horses could be induced or forced to attempt. They are uniformly worked in yokes, and not in collars. Four oxen, or six young steers, are the usual team employed in the plough." Vancouver, in his "Survey of Devonshire," says, "That it is a common day's work on fallow-land for four steers to plough two acres with a double-furrow plough."

Mr. Yonatt in speaking of the Sussex oxen, says:—"Almost the South Down oxen are much employed, but not perhaps in an equal degree to horses. In the Weald of Sussex they have the greater share of the labour; and on a farm of 100 acres there is usually a horse and an ox team; on a larger farm there are more oxen. The coarse breed is always slow, and soon after six years old, it can scarcely be worked at all to advantage. The light breed, the true Sussex of many a century, will step out as light and as fast, and will do almost as much work as any horse, and stand as many of those dead pulls. Of the speed which some of them possess, proof was given when a Sussex ox ran four miles against time, over the Lewes race-course, and accomplished the distance in sixteen minutes."

Mr. Yonatt, in reference to the Devonshire ox employed in the plough, says:—"There is a peculiarity in driving the ox team which is very pleasing to the stranger, and the remembrance of which, connected with his early days, the notice does not soon lose. A man and a boy attend each team; the boy chants that which can scarcely be regarded as any distinct tune, but which is a very pleasing succession of sounds, resembling the counter-tenor in the service of the cathedral. He sings away with unwearied lungs, as he trudges along, almost from morning to night, while every now and then the ploughman, as he directs the movement of the team, puts in his lower notes, but in perfect concord. When the traveller stops in one of the Devonshire valleys, and hears the simple music from the drivers of the ploughs, on the slope of the hill on either side, he experiences a pleasure which the operation of husbandry could scarcely be supposed to be capable of affording. The chaunting is said to animate the oxen somewhat in the same way as the musical bells that are so prevalent in the same country. Certainly the oxen move along with an agility that would be scarcely expected from cattle, and the team may be watched along, while without one harsh word being heard or the goad or the whip applied. The opponents of ox husbandry should visit the valleys of North and South Devon, to see what this animal is capable of performing, and how he performs it."

Certainly it is only by seeing how oxen suitable to the yoke, and properly managed in the yoke, perform their work, that we can be able to form an accurate estimate of their value in agriculture, compared with horses. This we do not often see in British America. Farmers breed oxen without any regard to their suitability to plough or cart, and they employ them in plough-teams, without any selection. They have a pair, two pair, or more, of oxen, and all are trained to the plough whether fit for it or not. Breeding of neat cattle for every purpose is conducted in the same way, so far as regards the female. All the heifer kind, no matter how defective in shape or appearance, are put to breed—no selection is made—and hence, it may well be conceived that we cannot have very choice or perfect stock for any purpose. There are some exceptions certainly, we have farmers who are very particular in breeding stock, and have excellent stock to show, but in general there is not much attention given to make judicious selections of the female, or heifer kind for breeding. Almost every heifer bred in the country is allowed to breed again, and while that is the case, we never can have an excellent and profitable stock.