

ant, and in many cases Science has only followed to explain what experience has before discovered. But the process of discovery by experiment alone, is always painfully slow, because the experimenter has no clear perceptions to guide him. In many cases, errors and inexplicable differences of opinion arise, because results of an opposite character are obtained by individuals in the same neighborhood.

"I once attended a meeting of a Farmer's Club in Ayrshire, Scotland, where the subject of discussion was Lime. All were from the same neighborhood, and all used lime, but scarcely any two agreed in their estimation of its effects. Some considered it one of the most valuable manures employed, and others condemned it entirely. The discussion was perfectly satisfactory in its termination, each person being only confirmed in his own opinion. The true explanation of their differences consisted in the fact, that the soil of their district were derived from the decomposition of two species of rock, the one of which abounded in lime while the other was almost entirely destitute.—This was a case in which experience gave no information as to the course most advisable in individual cases. Expensive experiments were necessary in each instance, and after all this expenditure of time and money, no general or useful result was arrived at. But on the other hand, theory alone is almost as objectionable as practice alone. Results obtained in the laboratory or on paper, are by no means to be considered as applicable to practice until tested by experience. Ignorance of this fact has led some of the most eminent philosophers into deplorable errors, and has caused many practical men to regard scientific Agriculture as but another name for quackery.—The only true course is to unite practice and theory, guiding and explaining each by the other. The utmost possible advance would then be made in both directions, because all experiments would be for definite ends, and guided by clear, intelligent views.

"When we attentively consider the principles, which I have now endeavored to present in a connected form, we perceive that they are not only simple, intelligible and practical, but also beautiful. That endless chain which joins the dead earth to the living plant, the plant to the animal, to the earth again, is even sublime in its unceasing series of changes."

We may add that we have known farmers who have, in the beginning, been most charmed by the effects of lime, who afterward began to doubt, and at last condemned it as an exhauster. This has been because they have looked to it to supply everything; and when their lands have been exhausted of other things necessary to the growth of their crops, instead of supplying these other things, they have turned indignantly and unjustly upon the lime because it has not continued to do what it never could and never promised to do. All this is explained by that eminent and profound agricultural writer, Von Thaer, and by others.

WHAT SCIENCE IS DOING FOR AGRICULTURE IN ENGLAND.

The reader may form some idea of this, when it is seen that chemical investigation has undertaken to determine, with confidence, and with an accuracy sufficient for all useful purposes. *The quantity of food necessary to produce one pound of flesh, and the cost of its production, according to English prices.* This last we omit, on account of the difference between English prices and ours, leaving every reader to ascertain the cost, according to the value of the food in his own neighborhood, or on his own estate:—

25 pounds of milk furnish one pound of flesh	
100 do of turnips	do
50 do of potatoes	do
50 do of carrots	do
4 do of butcher's meat free from fat or bone,	
furnish 1 lb. of flesh.	

9 pounds of oatmeal furnish one pound of flesh	
7 1-10 pounds of barley meal	do
7 4-10 do of bread	do
7 4-10 do of flour	do
3½ do of peas	do
3 2-10 do of beans	do

Table showing the approximate value of various kinds of food as fuel to sustain animal eat:—

4 lbs. potatoes contain 1 lb. carbonaceous fuel.	
10 lbs. carrots	do
1½ lbs. flour	do
1½ do barley meal	do
11 7-10 turnips	do
1½ lbs. oatmeal, 1 lb carbonaceous fuel.	
1 9-10 lbs beans	do
1 0-10 do peas	do
2 do bread	do
11 9-10 do milk	do

JEWISH MODE OF SLAUGHTERING CATTLE.

This mode is so humane and considerate, that for that, if nothing else, the disgraceful impediments and liabilities which prevent their full enjoyment of all political rights, ought to be expunged and done away with forever. A sharp knife—so sharp, indeed, that the least notch in the blade would render it unlawful to use it for the purpose—is drawn across the throat of the beast, which causes instantaneous bleeding to death. The rabbinical laws as to the smoothness of the blade are remarkably stringent, lest any bluntness may cause the animal unnecessary pain.

COST OF FENCES IN THE UNITED STATES.

BY J. S. SKINNER.

The cost of building and repairing the Fences in the United States, is enormous, almost beyond the power of calculation, and forces the inquiry, whether Legislatures ought not to be called upon to compel every man to keep his stock to himself. Then no man, who did not choose to do it, would be forced to enclose his land against the ravages of his neighbor's stock.

Mr. Biddle, a few years since, in an address before the Philadelphia Agricultural Society, stated that the cost of the fences in Pennsylvania amounted to \$100,000,000, and their annual expenses he estimated at \$10,000,000. A distinguished writer on National Wealth, says: "Strange as it may seem, the greatest investment in this country, the most costly production of human industry, is the common fences which enclose and divide the fields. No man dreams that when compared to the outlay of these unpretending monuments of human art, our cities and our towns, with all their wealth, are left far behind. In many places the fences have cost more than the fences and farms are worth. It is this enormous burden which keeps down the agricultural interest of this country, causing an untold expenditure, besides the loss of the land the fences occupy."

Estimating a chestnut post and rail fence to last 18 years, and including inside fencing and repairs, the annual tax to the farmer holding 150 acres, will be \$130 to \$140, and judging from the present appearances, the tax is perpetual, and there seems but little hope of escape from it.

Did the intelligent farmer reflect a moment, and estimate the annual tax which his fences impose upon him, he would not rest till the system was abolished, or else the live hedge took the place of the present expensive fence of timber.

The system of compelling every landholder to enclose his property, is peculiar to the United States, with only the exception of England, where the fence nuisance appears again under the form of the hedge; and although these hawthorn hedges, when they are well tended—and not more than half