

not be likely to err in want of attention, or by feeding it with what the father would think he could hardly afford? Then the thought presented itself, why would it not be better for him, and every man who possesses a son and a garden spot, to expend what they wish to give them, for influences of a like nature, in purchasing some light, handy tools, for any thing in which a child takes a pride he likes to have for a constant companion; and would not possessing good handy tools lead them to love work a part of the time as well as play, and especially, when they are assisted to make a garden for themselves, and taught how to transplant fruit trees of their own! Can a parent find any better or surer method to keep their children at work, and save themselves the trouble and vexation of forcing them to work with large unhandy tools, than by furnishing them with lighter, modern implements, that they will find a pride in using and keeping clean; Though they are children now, how soon will they be called to act for themselves, and the reins of government even be in their hands.

I have derived much assistance in training children from a work by A. B. Muzzey, entitled "Aid to Parents."

*Kennebunk, Sept. 27, 1856. A. A. WELLS.*

### Feeding Cattle.

Much attention is now given in this country to the *breeds* of all the various kinds of farm stock, from horses to bantams. The old world has been pretty thoroughly explored for choice specimens of animals, which have been purchased and brought to this country with little regard to cost or expense. At nearly all our cattle shows may now be seen the representatives of the herds of England, France, Spain, and even of the Celestial Empire, and they very often carry away the highest premiums. We do not object to this. We rejoice to see American farmers manifesting a determination to have the best stock the world affords, and to avail themselves of all improvements, whether made by the Arabs, by the Caravan drivers, or by the graziers of Europe. But while we have admired the fair forms of these animals at our Agricultural Exhibitions, or traced their pedigrees in the books, the inquiry has often been suggested to our minds, whether in our admiration of "Blood Stock," there is not great danger of overlooking the importance of that judicious care and feeding by which they have attained their present degree of excellence, and without which they will certainly deteriorate.

Our attention has been specially directed to this subject by the perusal of a detailed and long report on the "Management of Dairy Cattle," lately published in the *Journal of the Royal (British) Agricultural Society*. We propose to embody in the following remarks a very brief synopsis of some parts of this Report. We will pre-

mise that the writer, Mr. T. Horsfall, appears to be very much of a "scientific farmer," and that various analyses are given in his report, and indeed that his experiments are based upon them. With these, however, we shall not trouble the reader; as the results of his experiments are all that we shall attempt to present.

In the neighbourhood of the cities of England, where the produce of the dairy is sold in milk, and where quantity, and not quality, is the object, incalving cows are purchased, with much regard to their condition, and are then fed in such a manner as to produce the greatest possible quantity of milk, and, at the same time, to convert the stores of flesh and fat of the animal itself into that desirable liquid; which being done, the cow, greatly reduced in flesh, and no longer profitable, is sold to purchasers in farming districts where food is cheaper, to be fattened for the butcher or for another term of service with the city dairy keeper.

Mr. H. is not a city dairyman. He fattens his own cows, and purchases others to fatten. Much of his dairy produce is converted into butter. The objects, therefore, at which he aims, are quality as well as quantity of milk, and the production of beef; and his study has been to combine in the food of his cows, those substances best calculated to produce rich milk, and, at the same time, an improvement in the condition of the animal. Starting with the principle, that substances peculiarly rich in nitrogenous or other elements have a higher value for special than for *general* purposes of feeding, i.e., food rich in albumen has a much higher value for the production of milk than for fattening, or beef-making,—he sought assistance from what are usually termed artificial feeding substances, and while paying a strict regard to their comparative cost, he selected such as are rich in albumen, oil, and phosphoric acid, and other substances which analyses showed to be necessary to his purposes.

After various experiments and modifications, he has for the two past years adopted the following "bill of fare" for each cow: rape-cake, (an article generally used for manure, but which, by being steamed with the bran, &c., is rendered palatable) 5 lbs., and bran 2 lbs., mixed with a sufficient quantity of bean-straw, oat-straw, and shells of oats, in equal quantities, to supply them three times a day with as much hay as they will eat. The whole of the materials are blended together, and, after being well steamed, are given to the animals in a warm state. Beau meal is added to the various messes, in proportion to the milk given by each cow, in such a manner as to give those in full milk, 2 qts. each per day, while those that give but little milk get but little or no bean-meal, which is added dry to the messes as fed out separately. When this is eaten up, green food is given, consisting of cab-

rabi, till February; and mangold till grass time. With a view to nicety of flavor, green food is limited to 30 to 35 lbs. per day, for each, and turnips are entirely rejected. After each feed, 4 lbs. of hay, or 12 lbs. a day are given to each cow. They are allowed water twice a day.

During May the cows are turned out on a rich pasture near the homestead; towards evening, they are again housed for the night, when they are supplied with a mess of the steamed mixture, and a little hay each morning and evening. During June, when the grasses are better grown, mown grass is given to them instead of hay, and they are also allowed two feeds of steamed mixture. This treatment is continued till October, when they are again wholly housed. His stalls are kept during the winter at a temperature of nearly 60 degrees.

Under this treatment, very satisfactory results are claimed. The whole stock is weighed monthly. The cows in full milk, 12 to 16 quarts a day, vary but little—some gain, others lose a trifle. Those giving 12 quarts and down to 5 per day, when free from ailment, gain without exception. This gain on an average of 8 quarts of milk per day, is at the rate of 7 to 8 lbs. per week each. A cow intended for fattening, continues to give milk from ten months to a year after calving, and is then in a forward state of fatness, requiring but a few weeks to finish her for sale to the butcher.

A great variety of statements are given to show the improvement made in the quality of the milk, by this system of feeding, which are summed up by the remark:—"I therefore assume in my calculation 16 quarts of milk as yielding a roll (25 ounces) of butter." To show that this is a large proportion of butter, a great number of cases are quoted from books, &c. A Mr. YOUNG, an extensive dairy keeper in Scotland, and a "high feeder," obtained 20 ounces from 16 quarts. A Mr. RAWLINSON churned 20,110 quarts of milk, and obtained 14 ounces per 16 quarts; and again, 23,156 quarts averaged over 16 ounces of butter to 16 quarts of milk. In Mecklenburg, Prussia, Holland, &c., 14 quarts of milk yield, on the average, one pound of butter, and in rare instances 12 quarts are found to yield one pound. On inquiry in his own neighborhood, Mr. HORSFALL found it computed that each quart at a milking represents one pound of butter per week. Thus a cow which gives 4 quarts at each milking will yield 4 pounds of butter a week; equal to one pound of butter to 14 quarts of milk.

No definite statement of the average quantity of milk per year, produced by this system of feeding, is given, because a portion of the cows are bought when nearly dry, and fattened. But the writer says:—"The cows I buy as strippers, for fattening, giving little milk, from neighboring farmers who use ordinary food, when they come under my treatment increase their