

if a cow calf, in type should be equal or superior to the dam, or, if a steer calf, be fit for the market in the shortest possible time, making the highest returns for the feed consumed? Would it not also be the cow which for the feed consumed produced the greatest number of pounds of butter or cheese of the finest quality, and when she has answered her time for breeding and for dairying purposes, can be turned into beef of the highest quality at the least cost? If the line of argument so far is sound, we readily perceive that it would be of no avail to look for this cow in those breeds which are specially bred for beef purposes, neither will it be of use to look for her in those breeds which are bred exclusively for dairy purposes. Now, I presume it will require but little or no argument to demonstrate that the Shorthorn cow will nearly always produce her own type. If bred with the main object being for beefing purposes, she takes a prominent and conspicuous stand among the beef cattle fed in this country, and I think the same might be said of every other country where improved breeds of cattle are kept. As an instance, at the late Fat Stock Show held at Guelph, all the animals exhibited, with the exception of one or two, were Shorthorns or grade Shorthorns. Again, in early maturity she takes a prominent place among other breeds. A friend of mine last winter fattened a number of yearlings that were two-year-old steers when shipped in June last, and weighed from 1,400 to 1,435 lbs., and heifers of the same age that averaged 1,375 lbs., and there are many instances of them making from 1,100 to 1,200 lbs. at that age; and again, are there any finer specimens of cows, heifers and calves found in any of the breeds than we see among the Shorthorns exhibited at our agricultural exhibitions? Now, what is the record of the Shorthorn cow as a dairy cow? I am free to confess it may be difficult to prove that she comes up to the qualifications laid down in this paper, and if so, I think there are at least two causes why she does not. First, I think it may be safely asserted that Shorthorn breeders generally have paid more attention to their feeding and beefing qualities than to a good performance at the milk pail. With this I do not propose to find fault; it is not the intention of this paper to find fault, for the breeders may have good cause for the particular line of breeding which they have followed. Second, if there have been competitive tests in this country not only with other breeds of cattle, but individual records showing what can be done with a Shorthorn for a stated period—as I say, if there have been such competitive records, they have not come under my observation. I give the following, clipped from an agricultural paper, as the results of the British Dairy Show of 1890. At this show there were 437 cattle entered for the competition, and the tests were as follows.—Shorthorns, 121.1; Dutch, 115.5; Ayrshire, 93.8; Guernsey, 98.1; Jersey, 90.8; Red Poll, 69.1; Dexter Kelly, 68.1. The second prize-winning Shorthorn scored 117.9 points, but had the greatest milk yield of any in one day, being 61.3, but being under 3 per cent. in fat. So you see in Britain where some of the breeders breed for milking purposes the Shorthorn cow can show a good record. At a Farmers' Institute meeting which I attended lately, one gentleman stated that the best dairy cow was a cross between Shorthorns and Ayrshires. To get the best you will notice it required a cross with a Shorthorn. Now, is it not a fact that public opinion is a fairly safe guide in domestic matters as well as other questions? It is true that it may and does sometimes err. Well, how is public opinion on this general purpose cow question? Although we have in Ontario nearly all the breeding breeds of improved cattle, and have had them for many years, what do we find? Why, about nine-tenths of the cows kept by the general farmer are Shorthorns and their crosses. Now, you have noticed that the title of this paper was the query.

"Is the Shorthorn Cow the General Purpose Cow?" I have endeavored to present some facts and figures with the view of answering the question in the affirmative, but will leave it with you to say whether I have done so or not.

### THE TREATMENT OF PASTURES.

As with the change of weather we have a fair prospect of an abundance of grass, it may be worth while to call the attention of your readers to the injury caused by leaving in pastures the rough grass which has been rejected by cattle and sheep, in hopes that it will be eaten as fog in the following winter.

Where the coarse grass remains, the sweet and succulent grass cannot grow in the autumn, and good food is thus lost, and unless the almost valueless fog is pulled up in the following winter, the grass will not grow as it should in the spring. But this is not the only loss, for by proper treatment this coarse grass might have been made as ensilage into valuable food for the winter. This is, in my opinion, a much cheaper plan than making hay of it, as the grass is spread over so large an area, and much time is wasted by the labourers in going backwards and forwards during the sometimes prolonged operation, whereas grass for ensilage is carted and done with at once. Ensilage may also be made during wet intervals in the hay-making season.—*E.C.*

### GROWTH OF POTATOES

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The Rothamsted experiments on the growth of potatoes for fifteen years (1876-1891) on the same ground, disclose some interesting facts regarding the effects of various fertilizers on this plant which, from an agriculturist's point of view, may be regarded as a root crop. The following summary shows the manures and average yearly produce of potatoes per cent through twelve years' experiments.

Description of Manure.	Market-able	Small	Dis-eased.	Total Tubers	Dis'd in Total
	Pounds	Pounds	Pounds	Pounds	Per Cent.
Unmanured .....	3 752	569	140	4 452	3 15
Superphosphate .....	7 280	630	308	8 218	3 66
Mineral manure .....	7 588	546	294	8 428	3 45
Ammonium salts .....	4 228	686	210	5 124	4 06
Nitrate of soda .....	4 998	588	294	5 880	4 02
Minerals and ammonium salts .....	13 314	812	336	15 064	6 26
Minerals and nitrate of soda .....	13 146	714	1 036	14 896	7 00

We see that the average produce during this period under the most exhausting treatment, that is, without any manure whatever, was 4,452 pounds per acre, nearly as much as the average produce under ordinary cultivation in the United States, and about two thirds as much as in some important European countries.

By superphosphate of lime alone the produce is raised from an average of 4,452 pounds to 8,218 pounds; and by a mineral manure containing besides superphosphate, salts of potash, soda and magnesia, to 8,428 pounds, that is to very little more than by the superphosphate alone. It is evident, therefore, that up to this amount of production, the character of the exhaustion, induced by the growth of the crop on this