

pects in parts of Europe are unsatisfactory. In Great Britain it is thought that wet and cold weather will reduce the crops below the average of last year. In France the area devoted to winter wheat was so reduced that spring wheat has been sown more extensively than common, and on high dry land it looks well. The rye crop is poor. In Germany the season is backward. In Austria accounts are favorable for all grain except barley. In Holland and Belgium prospects are unfavorable, and in Italy average crops are not expected. From Russia the reports are flattering, especially, in regard to wheat.

Beet-Root Sugar.

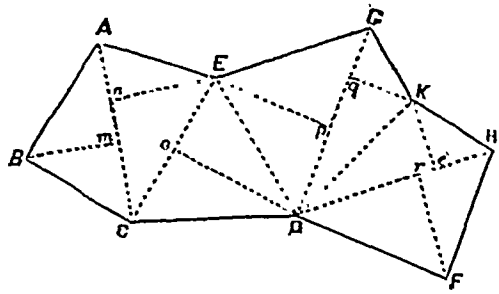
We have been much gratified by receiving from a correspondent and subscriber to the CANADA FARMER a most excellent sample of beet-root sugar, made by himself entirely, according to the directions which have from time to time been given in this journal. The sugar is equal to the best muscovado in appearance, is of a very light color, good grain, and dry. It has a very slight beety flavor, just enough to show its origin, but not enough to render it objectionable, disagreeable, or unfit for all the ordinary purposes for which muscovado sugar is used. In fact, the beety flavor is a very much slighter impurity than the prevailing flavor in many samples of French and German beet sugar which have been sent out to Canada as samples of what beet sugar should be, and the sample of sugar in question is far better and more usable than most maple sugars. This proves beyond cavil that the instructions given in the CANADA FARMER for the manufacture of beet sugar, if carefully carried out, are sufficient to enable us to manufacture the great staple which we now introduce in such large quantities from abroad, and to give our farmers the benefit of all the money which is now paid to the European producer of the beet.

The gentleman alluded to has got up a company to erect a small manufactory for beet sugar. He has interested a number of farmers in his neighborhood in the matter, and has got quite a large quantity of beets sown. He gives all who choose to grow beets an interest in the company, and takes payment of their stock in it in roots, to be supplied by them. In this manner many farmers have been induced to contribute and take stock who would not otherwise do so, and he allows any to become stock-holders down to growers of half an acre of the roots. He has simplified the machinery to be used as much as possible, and there can be no doubt he will be thoroughly successful. His example well merits attention, and we shall hope to see it followed by numerous parties in different portions of the Dominion.

Land and other Measurements.—Continued.

We proceed in this number to the consideration of more than four-sided figures; in other words polygons.

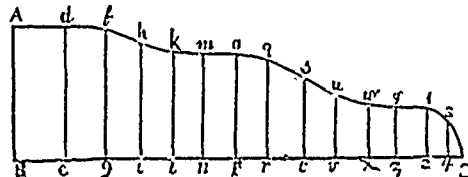
It often happens that a field, yard, &c., is bounded by more than four sides, as in the accompanying cut, which shows a figure of 8 different boundaries.



Well, a few minutes' reflections on the rules laid down in our last number, will enable any one to make the calculation in a very short time. For instance, in the figure given $A B C D E F G H K$, by joining $E C$, you see we have a trapezium, the diagonal $A C$, of which multiplied by half the sum of its two perpendiculars $m B$, and $n E$, (found of

course by the quadrant), will give the area in yards, perches, &c., as the case may be, and these reduced by the proper divisor will give the result in acres: again, by joining ED , we have the triangle $E C D$, the base of which EC , multiplied by half the perpendicular $D o$, will give its area. In a similar manner we can divide the remaining portion of the figure into two other trapeziums by joining $K D$,—each of which may be calculated as in the case of the first; then, the sum of all these areas will be the area of the whole field. The simpler method is to take the total area in yards before using the divisor 4,840—as then one division answers for more.

It frequently occurs also that one or more sides of a field may be bounded by a crooked fence, a winding stream, or something of that sort, that is, it may not be enclosed by straight lines, as in this cut.



In such a case, several measurements are taken at equal distances from one another, and perpendicularly to a base-line $B C$,—as for instance, the measurements $A B$, $c d$, $f g$, &c., in the figure—(the more numerous these measurements, the more exact will be the area)—next we add the two $A B$ and $3 d$, together, and take half the sum for an average between these two. To this average add the sum of all the other measurements and divide the result by the total number of measurements less one. Multiply this result by the length of your base-line, and the product will be the area.

Again, to measure a circular field or fishpond, take the length of the diameter: multiply this by $3\frac{1}{2}$, and you will have the circumference; then, multiply half the circumference by half the diameter, and the product will be the area. By the way, it is often interesting to compute from some of these simple rules, how much land is lost to farmers in this country from the use of the common zigzag fence. The side fence of a square ten acre field is 220 yards in length; now, for every zag in that fence there is a small triangle of land absolutely lost. Let us compute it. A rail is usually about 14 feet long; allow 2 feet for end-crossings and we have left 12 feet clear; thus, then, would be the length of each side of our triangle. Assume now that the length of our base-line, that is, the distance between the two most distant ends of two contiguous rails, is 18 feet, and the perpendicular from this line to the point of contiguity, say $4\frac{1}{2}$ feet, we have thus for each fence zag $18 \times 4\frac{1}{2}$ equal to 81, and the half of this, $40\frac{1}{2}$ square feet or $4\frac{1}{2}$ square yards loss. Now there are over 36 such base-lines in each side fence; consequently there is a loss for each side of 36 times $4\frac{1}{2}$, that is 162 yards, or 648 yards around the entire field. This calculation refers however to one side of the fence, and we must just double it to find the loss occasioned by the corresponding zags on the other side. That will give us 1,296—say 1,300 yards, or over a quarter of an acre in every 10 acres.

Bogus Butter.

Everybody is well aware that there is any amount of abominable grease in the market, which goes under the too complimentary name of butter. It is generally supposed, however, that all this wretched stuff is a veritable dairy product, and may be traced in its origin to the milk-pail. But this is an age of adulteration and counterfeiting, so that one need not, perhaps, be much astonished at the following paragraph, which we clip from a journal of unquestioned truthworthiness as to dairy matters, the *Utica Herald*:—

"There are many vile compounds sold for butter. A cotemporary notices a New York enterprise by

which good (?) butter is prepared as follows: 'Agents are employed to visit slaughter-houses and buy up all the beef suet. This is carted to the factory and cleaned. Then it is put into meat-choppers and minced fine. It is afterward placed in a boiler with as much water in bulk as itself. A steam pipe is introduced among the particles of suet, and they are melted. The refuse of membrane goes to the bottom of the water, the oily substance floats and is removed. This consists of butter matter and stearine. A temperature of eighty degrees melts the former and leaves the stearine at the bottom. The butter matter, or cream, is drawn off; about thirteen per cent. of fresh milk is added and the necessary salt, and the whole is churned for ten or fifteen minutes. The result is Orange county butter at about one-half the usual cost. The stearine is sold at twelve cents a pound to the candle maker, and the refuse at seven cents a pound to the manufacturer of food for cattle. A company with a capital of \$500,000 has been organized for the manufacture, and they expect to make dividends of 100 per cent. The inventor is spoken of as a chemist, but is not named.' He had never ought to be, except with execration."

What Makes Farming Unprofitable.

Joseph Harris, of Rochester, has been discussing the above question in the *American Agriculturist*. He says:

"There are two main reasons why we are not making money. First, the extreme fluctuation in prices; and second, the low average crops per acre. There is no remedy for the fluctuation in prices. It depends on causes beyond the control of an individual farmer. It is not caused to any great extent by 'middlemen,' or speculators, or railroad monopolies. It depends on the great law of supply and demand. All that these men can do is to aggravate the evil. By refusing to buy when the supply is large they may depress prices to a point far below the cost of production; and by refusing to sell when there is a scarcity they may force an article up to an exorbitant rate. But this is all that they can do. Instead of wasting our energies in trying to remedy this evil, it is better to accept the fact that it has always existed and always will exist, and act accordingly. The real remedy is for a farmer to adopt a fixed and definite system of management, and stick to it."

There is much good sound sense in these views, and we especially desire to call attention to the necessity which exists for rigorously dealing with the only one of the reasons above-stated, which the individual farmer can control. "Low average crops per acre," result from poor farming, and therefore this evil admits of remedy. The universal resolve to farm better, to till a smaller quantity of land, if need be, and do it thoroughly,—would work a great and pleasing change in the agriculture of this continent. As Mr. Harris well urges, a system of management should be adopted wisely, and adhered to perseveringly. It is hardly possible for this course to be pursued without its proving remunerative and satisfactory in the long run.

British Agricultural Exhibitions.

Concerning these, *The Farmer* of June 30th, says: "The show season is now in what may be called 'full swing.' There have been no fewer than seven exhibitions of as many important provincial societies during the month, viz. The Bath and West of England, which was held at Plymouth; the Essex Society, at Maldon; the Suffolk Society, at Woodbridge; the Norfolk Society, at Thetford; the Warwickshire Society, at Birmingham; the Hants and Berks Society, at Southampton; and the Cambridge Society, at Chatteris. The weather has greatly favored the majority of these shows, that at Plymouth being the most successful yet held by the Bath and West of England Society. The programme for next month is even more formidable, as it includes the Royal, the Highland, and many other northern and southern societies. There have been no stock sales of any importance."

More attention should be paid to breeding and raising better stock. Breeding from scrubs and other common blood is suicidal shortsightedness. It is a "peevish and a pound foolish" practice to use feeble and worthless yearling bulls, when for \$100 to \$500 a neighborhood may be supplied with the best blood.—*Ed.*