

In 1862 the receipts were:—

From Dividends	£113 11 3
From Donations	£108 1 4
Subscriptions	£281 10 0
	£502 12 7

The payments to pensioners were 567 l.

In 1861, the first complete year in the history of the institution, the receipts were:—

From Donations	£84 12 10
Subscriptions	£204 2 5
	£288 14 5

The payments to pensioners were 292l. 13s. 4d.

We see at p. 514 (June 2) of our volume for 1860, that the donations and annual subscriptions had then approached 3000l. and 700l. respectively; but whether any annuitants had been then elected does not appear.

The facts, however, are, that since the 1st of January, 1861, the receipts and payments to annuitants have been respectively as follows:—

Year.	Receipts from all Sources.	Payments to Pensioners.
1861	£2,995 16 9	£292 13 4
1862	£2,995 16 9	£292 13 4
1863	3,276 10 5	309 10 0
1864	4,444 1 2	374 0 0
1865	4,481 14 9	1,134 0 0
1866	4,819 14 9	1,549 10 0
Total	£25,306 9 4	£5,015 3 4

If the receipts of 1860 were 3000l., then upwards of 26,000l. have been received during the seven years ending with 1866, and only 5000l. or thereabouts had been expended during that time directly for the purposes contemplated by Mr. MERRI and the original subscribers to the institution which he founded.

What has become of the remainder?

Of course a very large sum has been funded, and exists. We gather from the accounts of 1866 that dividends were received on 15,000l. in the autumn of that year; and that 3000l. were invested in that year, 2000l. of which were probably an addition to this 15,000l. And we learn that now, after another year, the sum of the 19,000l. stands funded in the name of the Association. Add together the payments to pensioners and the sums funded, and subtract the amount from the sums received, and you have the expenditure incurred in the administration of the Society's income. The question of the economical administration of the affairs of the Association is not, however, our present subject. We desire in the meantime to call the attention of the Council of the Royal Agricultural Benevolent Association simply to the fact that with only 57 pensioners on the list at the end of 1866, involving annual payments amounting to 1249l. 10s., they were in the receipt of a continually increasing income, amounting in that year to 4800l. We happen to know that there were upwards of 100 candidates for admission to the pension list of the Association in May, 1867, for a very few of whom were vacancies declared available, and of course very many cases of great distress were necessarily rejected. The advertisement announces that a further admission to the benefits of the society will take place in May next; and that, in addition to these, 10 orphans—the children of farmers—will then be elected on the foundation. This is, of course, a step in the right direction; but it seems to us unquestionable that such a step was needed long ago, and that the society must very largely extend its operations if it is to maintain its reputation.

MANGEL WURZEL, as a farm crop, is now becoming so general that a few notes on observations and experiments connected with its growth can hardly be otherwise than important. Most botanists concur in the opinion that Beet (*Betula* of the French) and Mangel Wurzel, among the rooting forms; and the *Poirée*, Fr., or leaf Beet, are all derived from the *Beta maritima*—Sea-side Beet; a not uncommon plant on the sea-coast of England, and, as stated by Mr. BENTHAM, "on rocks and in muddy sands by the sea-shore, in Europe, Western Asia, and Northern Africa, extending northwards to the Baltic." He further adds—"The white and red Beets, or Beetroot of our gardeners, and the Mangel Wurzel (*sic*) (Root of Scarcity) of our agriculturists, are cultivated varieties of this species." (*Handbook of the British Flora*, p. 441.)

The seed of our own sea-side examples, as we know from experiment, are readily susceptible of change; for having some few years since brought some seed from the coast at Bognor,

which we cultivated for several seasons, it was found that many of the plants, being acted upon by cultivative processes, among which may be reckoned collecting the seed, sowing it in an inland situation, at a chosen time, in prepared soil—wooding, singling, &c., and subsequent choice of roots preserved for seeding—we had in two generations brought about a root far more fleshy and more symmetrical than that of the wild plant.

We have, then, no difficulty in recognising the fact that the fat-rooted Beets and Mangels in all their varieties, and the forked roots of the *Poirées*, are the result of cultivating in two different directions; the object of the first being to produce a massive root, in the second large succulent leaves. In both of these cases, therefore, selection must continue to be practised in order to the improvement of any particular strain. And in any experiments on the growth of Mangel Wurzel, it is important to bear this fact in mind, as success will in great measure depend upon the exercise of judgment in these particulars.

Our own crop of Mangels for 1867, which we have made experimental on the principles already often laid down, consisted of the following sorts:—"Suttons' Mammoth Long Red" Mangel Wurzel; "Suttons' Mammoth Long Yellow" ditto; "New Yellow Intermediate" ditto; and "Purple Beet." Intermixed with these was a considerable breadth on one side of the field occupied with Orange Globe from seed of our own growing.

The soil on which the seed was sown is the stony wash of the inferior collic which here rests on a substratum of inferior collic sand—not the best soil for our purpose, but still the field came in for roots, and we thus did not deviate from our ordinary course of cropping. The land was dressed with about 10 tons of ordinary farm-yard dung, which was ploughed in in winter. In the spring it was scarified twice by means of FOWLER'S double engine set of steam tackle. After clearing and fining down, 3 cwt. of PROCTOR'S root-manure per acre was sown broadcast, and upon this bed the seed was drilled on the flat at the distance of 20 inches apart for the rows as late as May the 15th, the plants being well up by the 3rd of June. The sorts were placed in the following order, which we give for the sake of some practical observations which resulted therefrom:—

Long Red .. .. .	.....	.....	.....
Long Yellow .. .. .	.....	.....	.....
Intermediate .. .. .	.....	.....	.....
Intermediate .. .. .	.....	.....	.....
Orange Globe .. .. .	.....	.....	.....
Orange Globe .. .. .	.....	.....	.....
Long Yellow .. .. .	.....	.....	.....
Long Red .. .. .	.....	.....	.....

About half the field was occupied by this alternate arrangement, the other half was sown with Yellow Globe, and the whole was separated from a plot of Cabbages by a single row of the Purple Beet. The plants were singled to the distance of 14 inches in the row, except a few rows of the Orange Globe, which were singled out a little more than half that distance. It had been intended to have used the leaves of a few rows, and to have weighed the roots against those not plucked, but, as it turned out, Nature had performed this mutilating process, inasmuch as a long period of dry weather had spoiled all the outer leaves.

The result in round numbers was estimated as follows:—

TABLE OF PRODUCE OF MANGEL WURZEL, &c.

Name.	Distance apart of Rows.	Distance in Row.	Weight per Acre.
The five sorts	20	14	35
Long Red .. .. .	..	..	35
Long Yellow .. .. .	..	..	31
Intermediate .. .. .	..	..	37
Orange Globe .. .. .	..	..	37
Yellow Globe	9-10	32	27
Purple Beet .. .. .	..	10	22

An examination of this crop at the time of pulling suggested the following notes:—

1st. The sowing and singling of all the sorts at the same distance was a mistake, as the Long Red would have grown a greater crop if the distance had been greatly increased; as it was, there were some remarkably fine roots, but these were evidently grown at the expense of

* These are estimated in round numbers, but the weight per acre was 35 tons 10 cwt.

their neighbours, by which they were overshadowed; all were too thickly planted.

2d. The sorts should be kept separately, as the taller varieties overtop the bulbous forms, much to their prejudice.

3d. In singling, the distance of from 12 to 14 inches generally adopted in the west of England is a mistake; and our experiment fully proved that a less yield was the consequence of making the plants too thick. It was at the margin of the field that the largest roots of all kinds were met with.

4th. The Yellow Intermediate Mangel is a sort with a fine smooth skin and few rootlets; it can be grown thicker than the rest with advantage, and at the distance of our examples gave the best yield from their regularity in size and outline, and the slight amount of waste.

5th. The Orange Globe was more forked in the roots than usual, so much so that our men considered it worth double to pull them when compared with the Intermediate. We account for this from its being our own seed—and that, too, a second generation of it from the original stock—and also from its having been sown on the like kind of soil in each rotation. This digestion of root is a mark of degeneracy.

6th. We consider Beets unprofitable for a field crop, and the tolerable yield tabulated can only be accounted for from the fact that our sample was grown in a large field on the margin of the Mannus ground, and therefore was not interfered with by Beets and Mangels on all sides.

Further, it may be observed that as the different forms experimented upon are themselves the result of selection—selection from set sources is ever advisable, and repetition of one's own seed is to be avoided. B.

— MESSRS. KINGSFORD & LAY report that business in the corn market throughout the kingdom at the commencement of the year was not so brisk as that during the last few days a firmer feeling had prevailed. The price of wheat yesterday in Marl Lane may be quoted at about the same as was obtained on the previous Friday.—At the Metropolitan Cattle Market, on the 11th inst., the supply, though smaller than usual, exceeded the demand. Trade in sheep was however, a little better.—Priced have risen advanced during the week in the Wool market, lustre wools at the better grades of Downs being most in request.—The price of the Corn market during the week has been limited, and the best sorts command a 8l. 10s. per ton.

— We call the attention of our readers to the following letter and request from Mr. DARWIN:—

TO THE EDITOR OF THE AGRICULTURAL GAZETTE.

Sir,—I should be very much obliged to you or any of your readers, if they would have the goodness to refer me to any observations which may have been published on the proportional number of males and females born to our various domestic animals, such as cattle, sheep, horses, dogs, poultry, &c. I presume that this point has often been stated to, but I am at a loss where to search, and should be grateful for any references for any publication in this respect.

Sir, your obedient servant,

CHARLES DARWIN.

Down, Brunel, Kent, S.E., Feb. 11.

— Mr. DUNCAN, of Mincing Lane, to whose personal on the subject of Sugar Beets we last week called attention, is about to issue a statement of the conditions of success in the culture of this valuable crop. Among these conditions the most important, that no farmyard or other manure is to be applied to the land during the current year. He does not object to bone-dust, but anything in the nature of farm manure, or the consumption of sugar in the United Kingdom so important to be allowed to rest on an experiment conducted in Ireland 20 years ago. The success of Beet as a crop in France, Belgium, in the West Indies, and in the latitude, and on similar soil may fairly tempt us to try an experiment in England. Great improvement has been made in the process of manufacture within the last few years. Improved hydraulic presses have increased the yield of juice from the roots, the introduction of carbonic acid gas facilitates the clearing of the juice, and the use of steam power from our evaporators has well demonstrated the state of evaporation. The pulp, when squeezed dry in the press it leaves the hydraulic press, is said to keep in stores 48 hours, and may be used for 24 hours, and is very equally except the sugar. It can thus be used as a convenient food for cattle feeding, and its consumption on the farm is more for the good than for the bad. It is also consumed as green crop. A sugar refinery is the Mr. James Duncan, of 5, Mincing Lane, who at present is not connected with the Beet business, but is well acquainted with the beginning, and is so well satisfied with the sugar-producing qualities of English-grown Sugar Beet, as expressed in a letter that he writes of the great value of the Beet in the buildings and machinery for the extraction of the juice. It is proposed to place these near a railway station, in a position where the Beet can be carried to the factory, and the juice to contract for 6000 tons of roots in the coming season at 18s. a ton. He intends to carry the process of manufacture to such an extent as will enable it to be carried to this sugar refinery at the Victoria Dock, which will be completed in the next few months. The dry ground will be returned to the farmer at little more than a nominal