

what may be truly denominated, a new era in the preparation and manufacture of flax. We take for the present the section on the

OBJECTIONS TO THE GROWTH OF FLAX CONSIDERED.

It may very naturally be asked, Why, if the cultivation of flax be so advantageous, it has not been more generally carried out in this country? The answer to such an inquiry may readily be found in the difficulties which have hitherto existed with respect to its preparation; and the uncertainty of the market for the produce when so prepared. Objections, founded on the character of the crop, and the comparatively high prices of wheat secured to the grower, have also, no doubt, had some influence in preventing the cultivation of a plant which was considered to be highly exhaustive, and which had not the advantage of a protective system. With regard to the latter of these causes, recent changes in our commercial policy, of the propriety of which no opinion is here expressed, have, however, now placed the flax and the corn crops upon the same footing, and the agriculturist in this altered state of circumstances, will doubtless devote himself to the production of any article that promises an adequate return for his labour and capital. The advantages resulting from the growth of flax, as compared with other crops, will be treated of in a subsequent portion of these pages.

But a very general belief appears to prevail among our agriculturists, that flax is an exceedingly exhaustive crop. The opinion is one which has been handed down almost from time immemorial, and the clauses which in many cases are introduced into the agreements and leases for agricultural tenancies, forbidding the culture of flax, hemp, and woad, have no doubt tended to strengthen this conviction in the minds of those who have not possessed the opportunity of practically testing the truth of this very current opinion. It is most undoubtedly true that flax, in itself, like all other crops, whether cereal or others, is certainly an exhaustive one: few crops are, however, more exhausting than wheat; but the farmer does not refuse to grow it on that account, as he knows that a great proportion of the crop is usually returned to the soil. Now, there are two modes of testing the accuracy of the opinion with respect to the injurious effects of the flax crop, viz., by chemical analysis of the constituents of the plant, and by that still more satisfactory and convincing test—the result of practical experience. Tried by either or both of these, it will be found, under a judicious mode of treatment, analogous to that pursued by the grower with respect to his other crops, that flax, so far from being an injurious, will be found, independently of its other advantages, to be of greater value than any other crop in keeping the land in a profitable state of productiveness, and preventing the possibility of its deterioration.

If the construction of the plant be closely examined, it will be found that those portions of it which absorb the alkalies, and the nutritive properties of the soil, are those which are not required for the purpose of manufacture, viz., the woody part of the plant, the resinous matter, and the seed. The capsules of the seeds, the husks of the capsules, and the seeds, contain a very large proportion of nitrogen and phosphoric acid, and may consequently be advantageously employed for the purposes of manure or for the feeding of cattle. The fibre of the plant, which is that portion required for manufacture, consists of about 47 parts of carbon in 100, united to the elements of water—in fact, oxygen, hy-

drogen, and carbon are its principal constituent parts, and they are derived not from the soil but from the atmosphere. 100 lbs. of flax fibre has been found by recent experiments to contain not more upon an average than 2 lbs. of mineral matters, including lime, magnesia, oxide of iron, carbonic, phosphoric, and sulphuric acid, and silica.

In cases where in the course of preparation of the flax, the seed and the whole of those portions of the plant which have absorbed the nutritive matters from the soil, are destroyed by steeping, and where nothing is left to be returned to the soil, there can be no doubt that the crop is an exceedingly exhaustive one; and in the present advanced state of agriculture, it would be a vain and absurd attempt to endeavour to induce the farmer to grow flax upon such conditions. The last report of the Royal Irish Flax Society gives some particulars of the flax crops of fifty-one farmers in the county of Down, not one of whom saved the seed; and although the average gain was £7 1s. 4½d. per acre, their example is one which is not likely to be very generally followed by enlightened agriculturists.

But apart from the deductions of chemical science, or theories founded upon the structure of the plant, the recent proceedings of the Royal Agricultural Society have completely set the question at rest. Mr. Beale Brown, who has devoted the last seven years to the culture and preparation of flax in the county of Gloucester, stated at the meeting of the society on the 26th of February, that flax, deriving as it did, a large amount of its nutriment from the atmosphere, was the least exhausting crop that could be put into the ground, provided the manure from the seed and refuse were retained on the land, and only the flax fibre itself carried off; and he had reason to believe that this opinion was now entertained by all parties connected particularly with the cultivation of the flax crop.

Mr. Druce of Ensham in Oxfordshire, also stated that flax was not an exhaustive crop; that he grew turnips in the same year on his flax land without manure, and that his son had found that some wheat sown after flax, was one of the best crops he had ever grown. In Somersetshire it is a standing proverb that "good wheat crops always follow flax." Lord Monteaigle also gave the result of his own experience, in connection with the growth of flax upon his land in Ireland, and said that some of the land which he had sown with it, had been previously rather exhausted, but by cultivating the crop well, that land had become better than any other on his estate; no meadow indeed, yielded such capital grass as that on which the flax had been grown.

The opinions of Sir Richard A. O'Donnell, one of the largest flax-growers in Ireland, and of Mr. Warnes, who has paid great attention to the subject in the county of Norfolk, were also stated in a paper read before the society by Mr. Edward M'Dermott, a copy of which will be found at page 29.

A third great obstacle which has hitherto stood in the way of an extended cultivation of flax, has been the great trouble and annoyance to which the farmer has been compelled to submit, in order to prepare his produce for the market. The Royal Irish Flax Society has laboured strenuously to encourage and promote improvements in the processes of steeping the flax. It is unnecessary here to refer to the various modes of steeping hitherto adopted, or the imperfections and difficulties which they present to the grower, as the reader will find them very clearly stated in subsequent pages.

The reluctance and growing disinclination to cultivate flax even in Ireland, which is traceable, to a cer-