

WHEAT, FROM WHENCE DERIVED?

Our readers will probably remember some experiments having been made on the trans formation of wheat, by repeated cultivation of a grass called by botanists *Ægilops ovata* and a native of those countries bordering the Mediterranean, which have been considered the original home of the cereals from time immemorial. The experiments were made by M. Fabre, and a translation of his paper respecting them was published in the *Journal of the Royal Agricultural Society*. We confess that the facts advanced by M. Fabre appeared to us conclusive, and to have been conducted so as to secure, as far as possible, immunity from hybridization, by carrying on the experiments amidst vineyards, at a distance from the fields of wheat. It appears, however, that there exists a difference of opinion on this subject among botanists, both in this country and on the continent. In England the majority of them were disposed, we believe, to adopt the nonhybridizing view of the question while in Germany and France the opposite opinion appears to have prevailed.

A writer in the columns of a contemporary lately stated that Dr. Regel, the Director of the Imperial Botanical Garden at St Petersburg, has recently informed him that having repeated the experiments of M. Fabre, he has satisfied himself that the reported transformation is merely the effect of repeated process of hybridization. Dr. Regel, it appears, went directly to the experiment of hybridizing the *ægilops* with the pollen of wheat. He declares the result to have shown that there is nothing of a gradual transition from one plant into another, but that by hybridization he obtained from *Ægilops ovata* a plant exhibiting a much greater affinity to wheat than to *ægilops*. The plants did not differ, he says, the least from each other: there was nothing like a gradual change.

With respect to the cases stated in M. Fabre's experiments of other transitions, Dr. Regel considers them as giving rise to the following questions:—1. Whether there are in reality any of these transient forms? 2. Whether they have not been produced by the return of the hybrid towards one of its parents? And lastly, Whether they are not to be explained by the repeated fecundation of the hybrid by one of its parents? In expressing himself in favor of the last supposition, he admits however that he has not himself seen the latter transition. He admits also that a hybrid when perennial cannot return to one of its parents by sexual propagation, but contends that it is different with the sexual propagation, where experiments with newly-raised hybrids, fertile even in their pollen, must decide, and can only decide the question. Dr. Regel further adds, that he has left some specimens of his hybrids between wheat and *Ægilops* in isolated places, where they may fecundate themselves; while he has fecundated some again with *Ægilops*, and others with bearded wheat. He then adverts to a theory started by Dr. Lindley, to the effect that the *Ægilops ovata* and *Triticum vulgare* are extreme forms of one species. This opinion he considers to be disposed of by his hybrid having pollen which is entirely sterile. At the same time, he admits the question to be still open whether this hybrid may not fertilize itself by means of its own pollen.

At the late meeting of the British Association, Professor Henslow read a part on some read some experiments which he had made for the purpose of deciding the question. These had so far succeeded in changing the character of *Ægilops squamosa* as to lead him to conclude that the original statement of M. Fabre that *Ægilops ovata* was the origin of *Triticum sativa* was not altogether without foundation. He exhibited specimens in which *Ægilops squamosa* had undergone considerable change, but he had not yet succeeded in obtaining the characters of *Triticum sativa* of wheat. For ourselves we confess that, putting aside the questions in physical botany to which this alleged transformation of *Ægilops* into wheat gives rise, we were disposed to treat the experiments of M. Fabre as offering a solution to a very puzzling question, that of the native country of wheat in a wild state. The fact that *Ægilops* is indigeneous to those countries bordering the Mediterranean, which have from time immemorial been known as the birth-place of wheat and the early scene of the exploits of Ceres, appeared to furnish strong *a priori* evidence in favour of M. Fabre's researches. If wheat is not derived by cultivation from *Ægilops*, from what grass is it derived; and if not from any, where is its native country? Who ever saw wheat wild, except when it had escaped from the haunts of man? Who ever saw it, any more than a wild red cabbage, or a cauliflower, or a wild swedish turnip? Wheat must have had some wild original; and if it is not *Ægilops*, what is it?—*Farmer's Magazine*.