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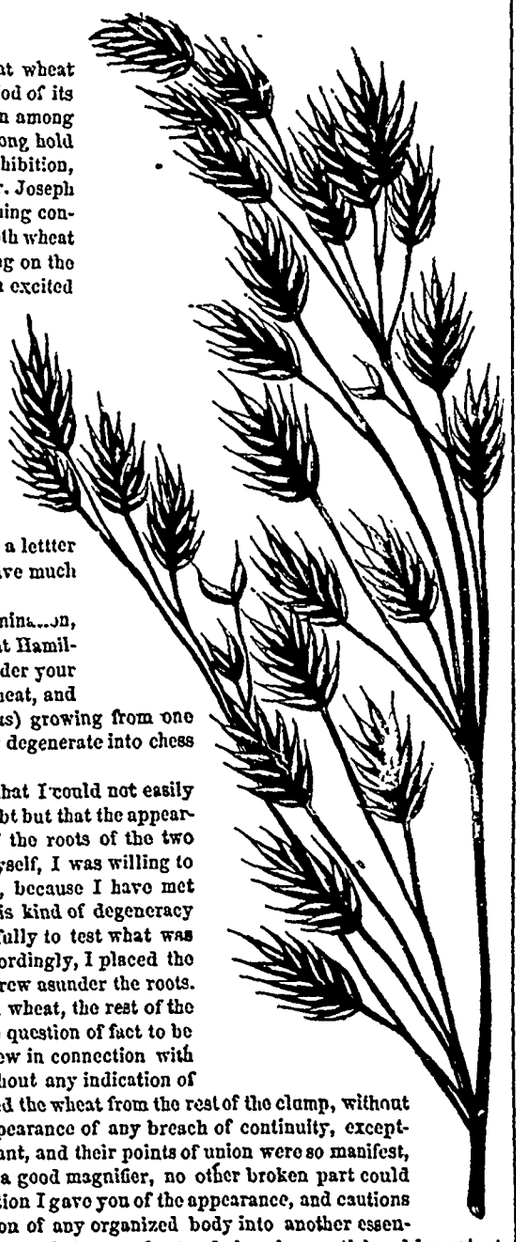
The Field.

Chess or Cheat.



AN idea still prevails in many quarters, that wheat sometimes changes into chess during the period of its growth. Scientific agriculturists rank this notion among exploded fallacies; nevertheless, it retains a strong hold on the popular mind. At the recent Provincial Exhibition, in Hamilton, a bunch of plants was shown by Mr. Joseph Lee, of Glandford, which was regarded as furnishing conclusive evidence of the transmutation theory. Both wheat and chess, plainly developed, seemed to be growing on the same stalk; of course, the vegetable phenomenon excited a great deal of attention, and provoked animated discussion. The bunch of plants was certainly a curiosity, and the naked eye could not detect a distinctness between the stalks of wheat and chess. However, at the close of the Exhibition, Mr. J. Fleming of this city, who had superintended the Vegetable and Root department, placed the specimen in the hands of Professor Hincks of University College, that he might bring his botanical skill and experience to bear upon it. The results are embodied in a letter from the Professor to Mr. Fleming, which we have much pleasure in publishing:—

"DEAR SIR,—You placed in my hands for examination, a specimen sent as a curiosity to the Exhibition at Hamilton, and placed in the department which was under your superintendence, of what was supposed to be wheat, and the grass called Chess or Cheat, (*Bromus secalinus*) growing from one root, and considered as proving that wheat may degenerate into chess in certain circumstances.

When my attention was called to it, I said that I could not easily believe in such a transformation, and had no doubt but that the appearance was produced by a close entanglement of the roots of the two plants. But, although entertaining no doubts myself, I was willing to give my best attention to the specimen exhibited, because I have met with very intelligent farmers who believed in this kind of degeneracy in wheat, and I thought it might be useful carefully to test what was brought forward as a good example of it. Accordingly, I placed the specimen in water, and, when softened, gently drew asunder the roots. There were three much starved stalks of bearded wheat, the rest of the clumps consisting of a strong root of chess. The question of fact to be decided was then, whether the wheat stalks grew in connection with the chess root, or would come out separately without any indication of such connection. Now I affirm, that I disentangled the wheat from the rest of the clump, without the use of any violence and without the least appearance of any breach of continuity, excepting that the three wheat stems had formed one plant, and their points of union were so manifest, that they could be reunited, but with the use of a good magnifier, no other broken part could be observed. This case then justifies the explanation I gave you of the appearance, and cautions us not to be hasty in supposing the transformation of any organized body into another essentially distinct from it. That the difference of structure between wheat and chess is essential and important, I need not inform any one who has paid the least attention to the characters of the grass family. It is true, I believe myself, in common probably with most botanists at the present time, that wheat is not a strictly natural production, but a permanent variety of a grass of a different though closely allied genus, known to botanists as Aezilops; but the change here supposed is a comparatively slight and easy one, and was also, according to the experiments upon the report of which our belief is founded, a gradual one, whilst the change of wheat into chess is a very violent one, and supposed to be made at one step.

I have no doubt, that the seed of chess is often carlessly collected with seed wheat, and the plant being a strong-growing one, will sometimes and in some soils and seasons, almost overpower the wheat in parts of a field, but there is really no evidence before us to prove any change of the one into the other. Believe me to be, dear Sir,

Very truly yours,
WILLIAM HINCKS."

Many persons are not familiar with this plant, and in order to enable our readers to identify it without difficulty, we herewith insert an excellent engraving of a full sized ripe cluster of chess. The open, loose panicle, with its long-stalked, separate heads, has quite a graceful appearance. Before the grains begin to mature, the heads are narrower and more pointed than shown in the cut. The little *awn* or bristle to the chaff of each grain, varies considerably in length. Chess grows luxuriantly, but is unworthy of cultivation for any useful purpose. It will yield a large quantity of fodder, but there is very little nutriment in it, less than in straw. It should be regarded and treated as a worthless weed.

Experiments and Opinions as to Potato Culture.

FOR some time past Professor Anderson and other scientific agriculturists in the British isles, have been engaged in patient investigation as to the habits of the potato, more especially with reference to the best methods of warding off the rot and securing good crops of sound healthy tubers. Although the experiments made, are not yet considered complete, they have yielded some results that are worthy of being noted for practical purposes. Thus it appears to have been demonstrated, that manure is chiefly useful in promoting the growth of the potato plant, *during the latter part of its existence.* The tubers from six unmanured plants, in the middle of their growth weighed 43·700 grains, and when ripe they had only increased to 58·900 grains, or a little more than one third. A like number of plants manured with superphosphate and guano increased from 41·600 grains to 91·700 grains, or considerably more than twice their weight. At the same time it was ascertained, that the potatoes grown without manure contained much less water than those heavily manured. A crop of Regents yielded,