minous plants, as a class of vegetables, refers generally to their herbage, and has seldom any connection with their seeds. Any inference which might be drawn from the suitableness of gypsum for sainfoin and clover to the suitableness of it for peas and beans would be a total and ruinous mistake. Any leguminous plants whose seeds are used for food, and which are grown upon soil either naturally or artificially capable of yielding to them even a very small proportion of sulphate of lime, usually assimilate so much of this salt into their seeds that these cannot easily be softened by boiling. The stubborn hardness of some peas and beans is frequently ascribed by cultivators to the temperature of the seasons of growth, or the rains which fall at the time of harvest, but is really caused by the assimilation of gypsum, and may be readily corrected by throwing a little subcarbonate of soda into the water in which they are boiled. But when leguminous plants are grown entirely for the sake of their herbage, and especially when they are intended to form a perennial cropping of green fodder for cattle, the enriching of the soil with gypsum gives them great energy of vegetation, and causes them to push forth very succulent leaves, and to renew for a long time the stems which are cut for fodder.

Some statements say that gypsum is usually very beneficial to turnips; and others assert that it is more uniformly successful for potatoes than for any other field crop. We have no means of decidedly affirming or denying these statements, or of recording the particular conditions under which they may be correct. But an unsuccessful experiment upon the gypsing of mangel wurzel by Boussingault may probably be regarded as indicative of the general inutility of gypsum to root crops. "The plants," says he, "were transplanted and watered, and the gypsum was applied at the time of earthing up. A good deal of rain fell; and shortly after having been laid on, the gypsum become incorporated with the ground. The crop was gathered on the 8th of October, three months after the gypsing, and from two equal surfaces, each of 242 square yards in extent, weighed as follows:—from the gypsed ground, 13 cwt. 2 qrs. 6 lbs.; from the ungypsed, 12 cwt. 2 qrs. 3 lbs. The gypsum would, therefore, appear to have had no beneficial effect; for the difference in favour of the gypsed piece is so trifling that it cannot be reasonably ascribed to the mineral manure; in fact, the quantity obtained from the gypsed surface does not exceed that which we constantly take from fields in the ordinary course of cultivation, and which have received no gypsum."

The fertilizing power of gypsum upon the cereal crops, as we formerly saw, was denied in 30 out of 32 answers to the Royal Agricultural Society of France, and affirmed in only 2. This ought to be decisive; yet it is hindered from making a due impression by a statement that, in the experiments of Smith, gypsed lan as compared to ungypsed land produced grai in the proportion of 192 to 100. A doubt thus started, which requires to be laid at rest and it may be dealt with by an appeal to th recent experiments of Boussingault. He tric gypsum on wheat after ploughed-in clover, aft mangel wurzel, and after potatoes, all in 184 and the results in the entire produce were—aft the ploughed-in clover, 319 lbs. on the gypse piece, 323 on one ungypsed piece, and 3 lbs. on another ungypsed piece; after the ma gel wurzel, 195 lbs. on the gypsed piece, 1 lbs. on one ungypsed piece, and 158 lbs. on a other ungypsed piece; and after the potatoes, 2 lbs. on the gypsed piece, 245 lbs. on one u gypsed piece, and 264 lbs. on another ungyps piece, thus giving on average, on the three e periments, of 250 lbs. on the gypsed piec 248 lbs. on one ungypsed piece, and 250 another ungypsed piece. But as the lor drought of 1842 was unfavourable to whe other experiments were made in the eminent favourable year 1843, on equal areas of square yards each, with a dose of 70 lbs. gypsum on each of the gypsed areas, and t results were as follows:—Rye with gypsum, 5 lbs. in sheaves, and 137 lbs. of grain; rye wit out gypsum, 472 lbs. in sheaves, and 127 lbs. grain. Oats with gypsum, 329 lbs. in sheav and 112 lbs. of grain; oats without gypsu 368 lbs. in sheaves, and 113 lbs. of gra Wheat with gypsum, 462 lbs. in sheaves, a 147 lbs. of grain; wheat without gypsum one place, 453 lbs. in sheaves, and 143 lbs. grain; wheat without gypsum in another pla 510 lbs. in sheaves, and 156 lbs of grain.

The fertilizing power of gypsum upon t artificial grasses, except in cases where soil naturally contains a sufficient portion sulphate of lime, is well ascertained, and great practical value. This is particularly t with respect to the usual rotational mixture clover and ray-grass. "If the farmer find says Mr. Johnson, in his prize essay, "that fields will only grow clover successfully one eight or twelve years, and that his neighb tell him his land is 'tired' of clover, or 'clo sick'—if he notices that even the application farm-yard compost hardly adds to the luxuria of his grasses—he may then safely concl that his crops have gradually exhausted his l of sulphate of lime, and he may, with ev confidence of success, apply a dressing of g sum, at the rate of 2 cwt. per acre, taking c to choose a wet morning for the applicatio and this may be done at any season of the y but it is better in April or the first days May." He then declares that he can at these facts from experience and observatio and narrates two remarkable verifications of th in the case respectively of an old paddock of clover and sainfoin lands. The paddock old, and had gradually become less and productive; and after being vainly plied w