

to our agriculture a truly fruit-bearing movement. This cannot be changed or modified by the isolated efforts of some learned men and a few practical people. It is necessary, above all, that the great body of agriculturists should be convinced by facts of the extreme importance, to-day more than ever, of cementing the alliance of science with practice. At whatever cost, our farmers must be made familiar with the art of experimenting. In a word, it is henceforth indispensable that agriculture, which in our country has been hitherto exclusively a science of observation, should become, at the same time, an experimental science. At this price and at this price only, can be reached better conclusions which will be more abundantly remunerative, and which will more than compensate the increased labour which the husbandman will undertake in following the new order.

"If the preceding reflections are well founded, and if we are not deluded as to the direction which French agriculture ought to receive, it is no difficult task to reach the conclusions which follow from the principles laid down above. On the one hand must be brought to the knowledge of practical farmers the results of agricultural researches undertaken in laboratories and experiment fields; on the other, it is important, as M. E. Lecouteux recently said, to stimulate immediately the creation of the greatest possible number of experiment fields in agricultural clearings."

At a later date, 20th September, 1877, M. Grandeau wrote to the same journal:—

"The station comprises both a scientific establishment, the value and reputation of which depend on the qualities of the learned man who is at the head of it, and a laboratory, where the proprietors, farmers and manufacturers of the neighborhood go to make, at their own cost, such analyses and researches as they may require.

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"Between 1852 and 1860 the German stations were almost all constituted on the same plan. The principal object of the scientific department was to study the nutrition of plants and the influence of manures. An experiment field and a laboratory for analyses constituted the means for study. Not long after the study of animal nutrition took the place which was claimed for it by the importance of cattle in agriculture. Hence the first step towards speciality. Each station continued to make analyses for the public and to carry on the manufacture of manures. But whilst some developed their experiment fields and erected special constructions for the study of the nutrition of vegetables, others applied particularly to animal physiology. A stable for experimenting and respiratory apparatus took the place of the experiment field for the study of soils and manures.

"The two branches of agriculture (cultivation of the land and care of cattle) were, then, in Germany provided with scientific institutions, where the husbandman could obtain information, such as he required, for guiding him in the cultivation of his land.

"The manifest demonstration of the profit resulting to agriculture from the union of chemical science and physiological experiment which was realized at the stations made impression, every day, more and more, on practical farmers. Their mistrust of those whom they call the learned lessened from day to day, and they hastened to come to ask, at the station, counsel and instruction as to those things in their daily labors on which they most wanted information. From this confidence in science and the new services which it renders to the farmer in enlightening him as to the facts which he observes without being able to explain them, arose the *specialization* of the stations.

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"If it be desired to group the several stations now in existence, according to the special services which they render to the practical cultivator, we conclude by classifying the establishments in the following manner:—

Direction of Scientific Researches.

Number of stations devoted to these specialities—

Studies on soil in general.....	16
Essays in culture and manuring (experiment fields).....	24