

not think we should get paid for our outlay and trouble." In the second class such an avowal would be nothing less than an avowal of a breach of trust; for the genuine student must follow knowledge at any cost to himself.

There is no doubt but that local experiments are made, and such are steadily on the increase, but there is no concerted action among farmers. Those experimenting in one centre do not combine measures with those of another. At least one inquiry in common should be simultaneously conducted over a good sized area of country. By all means let each district give the main part of its power to the solution of problems which most immediately concerns itself: but the share of the means employed in the general enquiry will be well repaid by the increasing interest, and stimulus to the faculty of making observations which this will involve.

Some few years since important trials were made in England, how to produce mangels on the most economical terms. They established the fact that mangels can be grown in large quantities per acre, and at a cheaper rate per ton, when no farm yard dung is employed. The lands cropped with mangel in the year of the trial were sown with barley and oats. In these the best results were obtained where the land had been "mucked" there being a material increase in bushels of grain, and a great superiority visible in the straw. The summary seemed to stand thus: first year, the average of the plots heated wholly with artificial manure, yielded 11-4 tons of mangel per acre more than the average of those which received dung, but the following year, these latter plots yielded 5 bushels more barley per acre, and 3 bushels more oats.

It would have been interesting if the cereal crops of the second year could have been all followed in the following year by a crop of barley, for in this way some evidence could have been deduced as to the unexhausted fertility, resulting from the use of farm-yard manure, which would have been valuable everywhere.

Such experiments as these have far more than a local value. They are good and genuine witnesses, speaking a language universally intelligible, on a subject which concerns all farmers to know. Still in these experiments there is still one thing more which the farmer should know—the properties of the variously grown mangels.

It certainly is quite possible that the feeding value of the mangels may be very different, and there is no doubt but that the keeping power of the variously grown mangels varies more than the analysis.

It is a peculiarity of agricultural experiments, that no result is a simple one, quality as well as quantity continually differs, and complicates the result.

The above trials were made in the West of England. Those in the East, speaking generally, confirmed the West experiment with mangels, viz: as to the superiority of the plots treated with artificial, over those manured with dung, and does as much as to the excess of grain and straw which follows upon the latter. In these trials, salt seems to have been of no value as a manure, nor did the land respond to potash, which occasionally on chalk soils has made wonderful records. It was proved that there is no fear of impoverishing land by growing heavy crops of mangels entirely by artificials: and that the subsequent grain crop is benefited by ploughing in the leaves of the mangel and by the more numerous rootlets left in the soil by a vigorous mangel plant. These experiments were supplemented by others with potatoes and cabbage; but these in the absence of others, wherewith to compare them, are of comparatively small significance. It is as agricultural statistics increase by repetition, and have local influences and those of the season eliminated by trials wide apart and in successive years that they are able to speak plainly. One or two trials are as likely to deceive as to guide.

From such trials as these practical hints, and manurial prescriptions should be drawn. There is no doubt that both the