

The Farm

Education in Good Roadmaking.

Educational work of the Road Inquiry of the United States Department of Agriculture, under General Roy Stone, director, has assumed a very practical shape. Heretofore this work has been done principally by the publication of bulletins. Last fall and winter R. J. Harrison, of New-Jersey, was appointed a special agent and lecturer. He visited and made addresses on modern road construction and its benefits in twenty-nine counties in New York, at agricultural institutes held under the direction of the Agricultural Department of the State. Early this summer the Road Inquiry began the construction of sample roads as object lessons. This is done under a provision in the law creating the Road Inquiry, as a part of their educational work, and is to be done at agricultural colleges and State experimental stations. The Government has equipped a plant of the most modern and approved machinery and implements. It consists of a stone crusher, elevator, screen and bins, a road machine for grading, a fifteen-ton steam roller, a three and a half ton horse roller, a cart for distributing broken stone on roadbed at any required depth, six feet wide and a stone gatherer to take up all loose stones from the roadbed previous to construction. The Government also furnishes an expert to run the crusher and one to run the steam roller, and E. G. Harrison, special agent and road expert, who has the general direction of the work, and gives lectures and talks on road construction during its progress.

The first road was constructed at the New-Jersey State Agricultural Experimental Station, at New Brunswick in June and July of this year. The second is early completed, at the New York State Agricultural Station, at Geneva. This road is about one and a half miles in length, and connects the station with the city of Geneva. About one thousand feet near the station is made as a country road, where the use is principally by farmers. It is eight feet wide and eight inches deep, with earth roads constructed on each side. The balance of the road is one of the streets or avenues of the city, and is made 14 and 18 feet wide, 8 and 10 inches in depth, the width and depth being increased as the travel becomes greater and heavier. Common field stone is brought to the crusher by farmers, and after being crushed to the size of two inches is put on the earth roadbed, which has been previously graded and thoroughly rolled, to the depth of six inches. This is wet and rolled down to five inches, or until it becomes firm and hard. Upon this foundation is placed four inches of trap rock, brought by canalboats from Haverstraw-on-the-Hudson. This is rolled, and the voids are filled with ground stone, kept wet during rolling, until the stone becomes thoroughly compact and impervious to water. The crown or centre of the road is raised so that all storm water is cast to the side ditches. The details of the construction of this road are under the superintendence of Charles T. Harrison, a Government expert, and formerly road engineer in Burlington County, N. J.

The sample road has brought many people to Geneva to see it. Many of them come in an official capacity as road officers or representatives of Boards Supervisors. Sixteen counties of this State and eight other States have been thus represented.

In this way the department of Agriculture, through its Road Inquiry, is imparting valuable information in regard to road construction. It demonstrates the fact that good roads can be made by the use of the common field stone for the foundation and then, by the use of the best stone available for the surface, a good road can be had at a comparatively small cost, the cost depending principally on the distance the stone has to be transported and the amount of grading.

Pure Water.

One of the most directly useful investigations carried on at the Experimental Farm at Ottawa is that by Prof. Shutt in regard to the purity of water used for drinking purposes in our rural homes. During the past nine years he has analyzed several hundred samples of such water, and the results of his analysis show conclusively that much of the water used upon our farms for domestic purposes, and for drinking, is quite unfit for use. Of the total number of samples examined by Professor Shutt, fifty per cent. were considered as suspicious or dangerous. This means that about seventy-five per cent. of all the well water which we use for drinking is not as good as it ought to be. Prof. Shutt thinks there is no excuse for this, as the natural water of Canada, at any rate in Ontario, Quebec and the Maritime Provinces, is the purest in the world. The principal source of the very serious impurity which the drinking water in our country homes so frequently contains, is the drainage from the barnyards, farm buildings, privies, etc., to which the wells are so frequently exposed. The water contaminated by such drainage, no matter how tasteless, or inodorous, or transparent it may appear, is wholly unfit for use, whether by man or beast, and is, indeed, a chief cause of typhoid fever, diphtheria, and other infectious diseases. And the placing of a well in a barnyard for the use of the stock (as is so frequently done) is an offence against natural laws that will surely in time be punished by diseased animals, impure milk, and perhaps by impairment of health or worse, in the members of the household. Diarrhoea, indigestion, sick headache, and other human ailments are frequently caused by the use of water only slightly polluted; the evil results are greater when the pollution is greater. The farm well, says Prof. Shutt, should be sunk at a safe distance from all possible sources of contamination; its brick or stone work should be lined to the ground water level with a cement impervious to water; it should be further protected from the infiltration of surface water by being furnished with a tight-fitting top, placed at some little height above the service of the surrounding ground; it should, from time to time, be thoroughly cleaned out; household slops, garbage, etc., should never be thrown near it: it should never be used as a cold storage receptacle (a too common practice we fear); and, finally, dairy and other vessels should not be washed out near it, unless ample and careful provision is made to carry off the wash-water by a well-constructed drain.—Farming.

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The prospects of the British artillery team coming to Canada in 1898 to compete with the Dominion batteries are favorable.

Hon. W. S. Fielding will visit Paris soon in connection with the proposed French-Canadian line of steamships.