



The Crosscut.

### Road-making: Cost and Oiling.

"DO NOT DRIVE IN ONE TRACK. AVOID MAKING A RUT. USE WIDE TIRES."

The above directions appear on little sign-boards at intervals along New York State roads constructed under the Department of Highways. One of these, between the towns of Phelps and Clifton Springs, in Ontario County, presents, after two years' heavy traffic, a remarkably fine appearance. It was well built, of good material, and demonstrates the value of a system of maintenance and repair. In view of the attention being given to road construction in Canada, details regarding the method and cost, and the oiling done last summer to improve the wearing quality of the surface and keep down dust, will be of value. The results were highly creditable to Inspector C. R. Madden, under whose direction the latter work was executed. Early in December, after a great deal of wet weather and heavy usage, the road was beautifully smooth and firm.

This road was constructed in 1908. The excavation cost 50 cents per cubic yard, with an average of about 3,000 cubic yards per mile. Concrete culverts were built where necessary, and cost \$7.00 per cubic yard, in place, complete. The bottom course, of No. 4 limestone (broken) was then laid 4½ inches, and rolled to 3 inches, then filled with sand, at a cost for the bottom course of \$2.75 per cubic yard, rolled in place, complete. The top course of No. 3 limestone (broken finer) was then laid 4½ inches deep, then rolled to three inches; then filled with limestone dust and screenings until all the voids were filled dry. More screenings were added, sprinkled and rolled. This operation continued until a grout formed under the action of the roller, filling all voids, which, when dry and hard, forms a pavement six inches deep. The top course cost about \$3.50 per cubic yard, in place, complete. This road was built 12 feet wide, of macadam, with 6-foot shoulders on either side, making a 24-foot roadway between ditches. The guard-rail was erected where necessary, at a cost of 20c. per lineal foot, in place, complete, painted two coats.

The amount of construction, added to the cost of making plans and inspection, made the total cost of this road about \$7,000 per mile. The broken stone was transported from the Leroy quarries, making the cost much more than where stone suitable for construction is in the locality, the freight adding about 90c. per cubic yard to the cost.

Upon taking charge of the maintenance in that section, last spring, Mr. Madden found this road becoming bare and rough, and beginning to ravel, and recommended oiling, which was approved. He then caused the road surface to be swept clean from dust and dirt with a street sweeper, costing about ½ cents per square yard. Then the oil was applied from an oiling cart, using 1 gallon per square yard. It was next covered with limestone screenings, until the oil was all taken up. The oil cost .04 per gallon, f. o. b. cents, and .03 per gallon to apply oil and rescreen the road, making the oil, complete, about \$100 per mile, including cost of stone screenings and oil. This amount appears high for maintaining a road, but makes the road practically dustless, and very easily travelled by auto and horses, as its condi-

tion becomes similar to street asphalt, doing away with the raveling, which is often the case on water-bound macadam roads during the dry season. The road now, with very little repairs, it is confidently expected, will last five years. The oil used is manufactured by the Standard Oil Company, and contains a 60-per-cent. asphalt base, with lighter flux added to make it flow at air temperature. This treatment will also lessen the cost of "patrol," as one man is expected now to take care of at least three times as much oiled roads as straight water macadam. The cost of "patrol" on water macadam roads averaged \$50 per mile per year each. Patrolman receives \$3.00 per day for man, horse and wagon. Each town is assessed \$5,000 per mile for each mile of macadam road in town, which is used in the repairs of roads, and the balance is borne by the State. Piles of broken stone and screenings for repairs are located at intervals along the highways.

In the construction of State and county roads, the State pays 50 per cent., the county 35 per cent., and the town (township) 15 per cent.; and the State highways are borne entirely by the State. These roads comprise the through trunk lines connecting the cities.

Other treatments are used for maintaining.

such as calcium chloride, on roads which are subject to less travel, at a greatly-reduced cost, which is giving very good satisfaction.

The Department is also constructing at present roads of asphalt macadam, with very satisfactory results, thereby lessening the cost of maintenance considerably. They are constructed the same as other macadam roads, only the top course. After being rolled, the asphalt, which is a heavier grade (about 90 per cent. asphalt), is heated to from 350 to 400 degrees, and poured into the stone about 1.65 gallons to the square yard, then screened and rolled. This asphalt cost about 17c. per gallon, thereby adding to the cost of the macadam about 28c. per square yard. These roads are giving very good satisfaction. They are built generally about 16 feet of macadam, with a crown of ¼ inch to the foot, with a 6 and 8-foot shoulder, making a roadway 28 and 32 feet between ditches. The earth roads leading to the improved roads are not under the State Department. The road hoe or rut scraper, if properly used at the proper time, is found of good advantage, at a very little cost.

### Alfalfa Hay Worth More Than Crop of Seed.

Editor "The Farmer's Advocate":

The writer has upwards of 80 acres seeded to alfalfa. Some has been down for several years, and the crop has been grown on this farm for over forty years, both for seed and forage.

I have almost given up the idea of growing seed, as it is very clear to me that very few farmers, if any at all, can afford to take chances, one year with another, on our small farms in Ontario to grow seed, as we generally need our feed or "starve our stock." Now, with the ever-growing demand for good alfalfa hay to-day, it is more profitable than the crop of seed. You sacrifice two crops of hay that are very valuable, or a lot of good pasture, for the crop of seed, which is very uncertain, and what seed is needed can always be bought at a fair price at any of the large seed stores, if not at the small ones. The yield with us is very uncertain of late years. The price is fair for good seed that is not injured with frost and well cleaned, but you lose two crops of hay, equal to from 3 to 3½ tons per acre, for the one crop of seed, and the two crops can be taken off with less expense than the one of seed, considering the expense of threshing and cleaning seed ready for market, and the probable yield of from two to four bushels per acre; some years, nothing; average, about 2½ per acre, at \$8 per bushel; this year, a little more for good seed. The straw, after threshing, is worth a little—but very little—for feeding, if it is a good seed year. I am satisfied no field will pay for seed unless it has a wonderful promise of blossom and not too rank a growth. If growth is rank, it is worth more for hay, as the demand is growing very fast for well-cured alfalfa hay.

As I said before, we can buy our seed and be ahead with the hay, but for those who wish to try the seed, would say the second crop is the best, and would prefer high-lying land, as the crop seems to mature much more quickly on the



It must have been Hubbard's cow, to which the postpaid herdsman remarked after he had driven them to the top of a mountain.

"The past is the best, but ye have a grand view o' the country."