

THE FARMER'S ADVOCATE AND HOME MAGAZINE.

THE LEADING AGRICULTURAL JOURNAL
IN THE DOMINION.

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1. THE FARMER'S ADVOCATE AND HOME MAGAZINE is published every Thursday. It is impartial and independent of all cliques or parties, handsomely illustrated with original engravings, and furnishes the most practical, reliable and profitable information for farmers, dairymen, gardeners, stockmen and home-makers, of any publication in Canada.
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comprehensive light, and lead to the development of sheep husbandry in vast areas of the country peculiarly well adapted to the business, and its extension where already in existence.

Oil-Mixed Cement Concrete.

Some interesting oil-mixed cement-concrete experiments are reported by L. W. Page, Director of the Public Roads Office, United States Department of Agriculture, Washington. Owing to the continually increasing use of cement by our readers, the suggestion might well be put to further trial during the building season of the current year. Speaking generally, his tests seem to show that ten per cent. of mineral oil mixed in concrete makes it completely waterproof, but it retards the "setting" and lessens the strength to a certain degree. It was found, about October, 1909, at the office of the Public Roads, that almost any oil could be mixed with Portland cement after it was thoroughly wet, the oil combining with the cement, and quickly disappearing throughout the mixture. This was also learned to be true of concretes and mortars. In adding the oil to mortar, the cement, sand and water are mixed together as in ordinary mortar, the oil being the last ingredient added. Oil-mixed concrete is best made by mixing the cement, sand or gravel and water to a mortar, adding the oil to the mixture, and mixing until the oil is thoroughly incorporated. This oil-mixed mortar is then combined with the previously-moistened coarse aggregate.

Tests have been made on the compressive strength of oil-mixed mortars and concretes in comparison with plain mortars and concretes. It has been found that, although the addition of oil causes a decrease in the strength, this decrease is not serious with the addition of oils in amounts up to ten per cent., based on the weight of the cement in the mixture. One-year tests in compression show that oil-mixed concrete gains in strength with time, this being true of both air

and water-cured specimens. One-to-three mortar specimens cured in air and containing 10 per cent. of oil have shown a strength of 1,500 pounds per square inch, as against 1,600 pounds per square inch for the plain mortar specimens. Ten-per-cent. mortar specimens cured in water have shown a strength of 2,200 pounds per square inch, as against 2,350 pounds per square inch for plain-mortar specimens. The time of "set" of mortars and concretes mixed with oil is somewhat delayed. The final set of neat cement mixed with ten per cent. oil is 60 per cent. longer than that of plain neat cement. It has been found that the addition of 10 per cent. oil renders 1-3 mortar impermeable under high pressure. The absorption is likewise decreased.

Last May, streets were constructed of oil-mixed concrete, one in New York City, one in Washington, and two bridge surfaces in Ridgewood, New Jersey. A few months ago, a vault 105 feet long, by 18 feet wide, was constructed in the Treasury Department of this material. The top was a flat, reinforced concrete arch, and as sufficient tests in bond had not been made, ordinary concrete was used to surround the reinforcement. After it had set, three inches of a 10-per-cent. oil mixture was placed above. The vault has been perfectly waterproof under very trying conditions. A large water tank, constructed in a laboratory, with a 10-per-cent. oil mixture, is absolutely waterproof. Extensive experiments made with oil concrete in basement floors have given excellent results up to the present time.

The oils that have been used to date have been non-volatile petroleum, with flash points at least 350 degrees. In view of the incomplete character of the tests now being conducted, it is not recommended that this material be used where life and property are endangered.

Peter, We Protest.

Now, see here, Peter, philosopher and friend, look at what you have done! Week after week you have interested and amused the readers of "The Farmer's Advocate" by your contributions on various subjects. Nothing wrong about that, you say. No, there is not, but the Editor seems to be taking you seriously. No doubt, some of the readers, also, and the thought of you being taken seriously is alarming, Peter, and, furthermore, we don't want any fun poked at the bulletins, nor yet the Farmer's Institute. You must only be a "make-believe farmer," or you would not do it.

Your description of your methods of cutting corn was very natural, and you very candidly admit it tried your temper, and you found it hard work. You did not like it, Peter; your heart was not in that work. Why? Of course, there is a good reason. Later on you tell us about your lonesome calf, and you go off to hunt the mother the wettest day in the year. You return, after a prolonged search, and find your lonesome calf under the drip of the granary. Poor calf! Why did you not put that calf in the stable before you started off on your search or when it commenced to rain? Could you expect even fair returns (say nothing of the rarely attainable) from a calf you would use that way? Then you tell us about your little pigs—thrifty little pigs. I should judge from your description of them—but then, they were not long away from their mother, and you had not tired of feeding them yet. You stood in the sunshine and watched them; you gave free rein to the steed of fancy; you thought of pigs dead and of pigs alive, of the poor man's pig, and of the pig millionaire. But Peter's dreams won't do for the rest of us, or, if we do dream, we must be sure that our dreams will pay their way and leave a balance on the right side of the account. When I see the gay old "Farmer's Advocate," with its sunny cover, I make a dive for it first thing, and lose no time in getting at the first page. There is an indescribable charm in that first page. If anyone is so dense as to ask why, I would ask these people why lovers of flowers will search their gardens and pluck the most beautiful specimens, arrange their bouquets, and place it where the eye will most often rest on it? Or, why will the prosperous farmer walk through his grain, root or corn fields, and come to the house bearing the most perfect specimens of each, and place them in a conspicuous place? Then, Peter, after that first page comes your letter, and I think that most readers' internals have a lively time playing "hide and go seek" as long as your letter lasts. But, again, allow me to ask you to make no more jokes about our O. A. C. or farm bulletins.

There are others who read these bulletins and

farm, also, and we know only too well that when we "fall short" in our crop returns, the cause of the failure, in nine cases out of ten, has been our own (and not anyone else's) blunder. The energetic, intelligent farmer of to-day knows that it is possible to get returns from the land that will equal and even surpass the official returns given in our farm bulletins, thanks to the invaluable information given year after year regarding seed selection, preparation, and cultivation of the different soils. Of course, I'll admit that there is a cow, or there are cows at the O. A. C. with records that are wonderful, and that few of us can hope to own milch cows of this class. There are also a few hens in the O. A. C. henhouse that must take the rest of their connections blush, if they have any shame at all. I fell quite sure that if the hen—I have only heard of this hen—that lays two eggs in the day should meet one of the class that lays once in two days, she would give the lazy one the cold shoulder, even if it was a summer day "and clouds were highest up in the air." But if we treated these cows and hens the way that the average farmer treats his, their wonderful records would fast disappear. After all, I think we mostly get what we work for and deserve.

At the O. A. C., every branch of agriculture has its own special teachers and workers. There are also to be found a few farmers scattered here and there who make a specialty of one or two branches of agriculture, and these are the men who reach the "rarely attainable," and occasionally the Farmers' Institutes are favored with an address from them. The motto of these men appears to be, "Whatever we do, do it well." The average 100-acre farmer seems to have a motto something like this: "We do a little of everything, and nothing very well." "But," says many a 100-acre farmer, "we cannot afford to farm as most of these men farm." Many of these men started with less than you did. Can you afford to sow seed on land that has many weeds and is poorly drained, and is not given half enough of manure? And your seed is often of inferior quality, and not half the quantity that is advised will be sown. Then, you reap as you have sown. The next year you trail your weary horses over that 10-acre field you seeded down—that is, if your seeding-down was worth leaving (sometimes it is not). If it is a favorable year, you may cut two tons (more or less) to the acre, and you'll talk of your good crop. A year like 1911 you will get ten tons, or possibly a little better. Did you ever figure up what that ten or twelve tons of hay cost you? Some of us figured this thing up some years ago, and, as a result, have adopted intensive methods. This year some of us harvested about our usual crop, while others had just as good as usual. Less land, better drainage, more manure and cultivation, would leave dollars with farmers, where now we only receive cents.

You were feeling pretty blue when the last load of hay came in, but it was not until the fall wheat and oats were cut that you really knew what you had to face this winter. Of course, you always intended to build a silo; the farm bulletins, as well as Farmers' Institute workers, advised it; "The Farmer's Advocate" and every other agricultural paper have sung the "Song of the Silo" for years, but you seldom take even one agricultural paper. If you do, you only glance through it, then you expand your chest and say, "What nonsense these fellows talk." You wish to provide a home for your family and pay your debts, so it is necessary for you to scrape together a few cents and subscribe to a local paper, in order that you may know where your neighbors visit, when they left and when they arrived home; then, there are the detailed descriptions of the girls' weddings—"Why! Sol Williams' girl was married in white satin!" Well, if she has married a farmer, such as many we see around us, she would have been wiser and more suitably dressed to have got married in her rain coat! There are many papers every week giving seasonable information on farm work, and we all can read; but it is only a few that will condescend to believe and follow up the methods advised by scientific farmers.

"But," you say, "I know of very successful farmers who neither take nor read an agricultural paper or bulletin." Well, so do I, but these are exceptional cases. These men are great observers and clever, and usually slaves to work, and often deny themselves and their families the "almost necessities" of life; they seldom live to be old men, and are often found crippled with rheumatism, or are nervous wrecks early in life. I know of one who has four sons, and it is not likely that any one of the boys will stay on the farm, although it is considered one of the finest in the county.

You say that the biggest fool-farmer you know of went to the O. A. C., and reads much on farming. That might be, too, but our professors and editors do not undertake to make men over and "make them right" (pardon the slang).