

variety are better for this frequent stirring, but on none are good effects so easily discerned as on the lighter soils. Morning and evening the horse and cultivator should be kept going between the drills. The weeds may have been utterly destroyed and the soil may seem loose and mellow, but the stirring of the soil should continue. Ammonia, a necessary element of plant food, is conveyed to the earth in the dew, so that the nutriment from the atmosphere is supplied in greater abundance to the plants growing in the soil that is well fitted to profit by it by the hand of the diligent.

Another great object in the cultivation of the soil is to make it so loose as to afford free access to the air heated by the sun's rays, an absolute requirement for growing plants. Heat and moisture, as is well known, are the great stimulants of civilization, and they are thoroughly incorporated with the soil by continuous summer cultivation more than by any other means.

Our Roads.

Farmers living on bad roads cannot avail themselves of good markets, and they thus lose in two ways: 1st, by inability to sell at the proper time; 2nd, by the expenditure of time and labor in teaming. We extract the following from the *Monetary Times*, which is deserving of consideration:—

"There can be no question that the common roads have suffered comparative neglect, the more so because the railway system has undergone great development. The municipal votes in aid of railway construction have lessened the fund available for the improvement of common roads; and the concentration of public attention on the benefits which might be expected from railways has contributed to the neglect from which the roads whereon the farmers' wagons travel have suffered.

The state of these roads during the past winter is an admonition to farmers to bestir themselves to improve them.

Statute labor is no doubt languid, careless and inefficient; but objections to commuting it into a money payment would probably be thick enough. Could not this labor be better directed and made more efficient? And, if so, might it not be greatly extended? Could not the use of farmers' teams as well as of men be got? The latter could be used to haul stone at a season of the year when there is little to do on the farm. Until all the principle roads in the country are well covered with stone the farmer will be under a great disadvantage in not being able to get his produce to market except under favor of the capricious weather which he can in no way control. In England many macadamized roads have been made in this way; each farmer, according to his means, being required to haul so many loads of gravel or other road-making material. Few persons in this country have yet ventured to dream of covering all the principal roads with stone or gravel; but it is a measure to which county councils should vigorously apply themselves.

A Dangerous Nuisance.

Tramps are to be found in every locality, some begging, some stealing and some intimidating the women and children. The impudence, audacity and villany of many of them is beyond credence. It is time the farmers in all sections should be alive to their danger. The only remedy we see is to arrest every vagrant, no matter what the plea may be, and give them hard labor and hard fare if found out of their own township.

If they belong to our country we should find work to make them earn their porridge; if they belong to the States they should be marched out of our borders, and if they are the pauper emigrants imported by our Government through their emigration agents, the agents' pay should be stopped to pay their passage back again. This compelling the paupers to go to the country and live sponging on farmers should be stopped. Canada has been

made too much of a nursery to train incapacitated emigrants to work, and then many of them go to the States. This is bad enough, but the regular American tramp is to be dreaded under whatever guise he may appear, and farmers will suffer the most from them. We do not include in the class of tramps men who are anxious to work, but can find nothing to do. They should get employment in the township or municipality to which they belong.

The Wealth of Our Country.

What constitutes the wealth of a country? The true wealth consists not so much in her natural resources as in the active, profitable labors of her people. Some countries in Asia and Africa have far greater stores of natural resources than Britain, and yet Britain is the wealthiest country on the Globe; while the resources of Asia, if at all turned to profitable account, go to enrich an alien people. Our own Dominion has within her wide domain ample sources of national wealth, but it is only by the active pursuits and the well encouraged labor of her people that she can attain to that eminence for which she is so well designed. It is not by sending to alien nations the crude materials from which national wealth is to be obtained by the skilled labor of her people that this position is to be attained. When the products of her farms and the products of her mines have increased, by the industry of Canadians, ten, twenty or a hundred fold, then our country can be said to be prosperous. This is true political economy—our country's common weal. The great benefits received by a people from the encouragement of the skilled labor of her sons are constantly before our eyes. We will give one instance:—

"Soon after launching the magnificent steamer, *Rio de Janeiro*, John Roach, of Philadelphia, her builder, said to the President of the United States, part of the Cabinet and numerous other invited guests:—'Seven months ago the material for yonder vessel, which was launched a half hour ago, was lying in the bowels of the earth. There it was worth \$5,000. To-day, in its present shape, it represents \$500,000, and that money has gone to the elevation of American labor.'

A Cheap and Good Deodorizer.

An effectual and inexpensive deodorizer is obtained by dissolving half a dram of nitrate of lead in a pint of boiling water and two drams of common salt in a pail of water; the two solutions are then mixed and the sediment allowed to settle. A cloth dipped in the liquid and hung up in the apartment is all that is required to purify the most fetid atmosphere. It is recommended for its cheapness, a pound of the materials costing about twenty-five cents.

Cost of Keeping Sheep.

STOCKING.

I think I can keep one sheep and one cow to every acre on a given amount of pasture, just as well as to keep the cow alone. I know that I can keep ten ewes through the winter on what food will be consumed by a good healthy fresh cow. In regard to the alleged injurious effects of keeping sheep and dairy cows in the same pasture, as affirmed by some, I must state that I have never observed them. And even if there were any injurious effect resulting from this practice it would be confined to the short space of time intervening between first turning the cows to pasture and harvest, say from the middle of May to the middle of July (two months.) After that time the sheep will prefer to cling to the old pasture, while the cows will be ever seeking and longing for the new. It has been my practice for the past ten years to select annually at least three of the best ewe lambs to be retained in the flock as breeders, and weeding out annually as many older and inferior animals. By so doing, if there is any improvement made in breeding it will be retained and perpetuated in the flock. It has likewise been my practice to change bucks at least once in three years.

Dairy.

Keeping Up the Flow of Milk.

BY L. B. ARNOLD, SECRETARY OF THE AMERICAN DAIRYMEN'S ASSOCIATION.

In whatever branch of business men are engaged, they seldom stop to look after improvements, or even to exercise a very careful economy, if they feel sure that they are sustaining themselves without. The old maxim, "be satisfied with doing well, and leave to others the thought of doing better," is appropriate enough upon occasions, but it is not always wise. It seems more appropriate to be always on the lookout for the greatest economy and largest production and best use of the means for obtaining the necessities of life and happiness. Speculators may grasp too much, but there is little danger of farmers producing or saving too much, for if they have more than is necessary for their own wants, it always goes to promote the welfare of others. But farmers are like the rest of mankind. If they feel confident that they are making a little something, or even making the ends of the year meet, they are apt to be quite indifferent about the leaks which are rapidly wasting what might easily be made to increase their stores. Dairymen are probably not more improvident than other farming men, but they do suffer some large leaks to dwarf their annual income, which it seems almost strange that they will continually leave open.

One of these leaks consists in allowing the flow of milk, from deficient food, to shrink faster than it otherwise would. It is a fact well known to almost every dairyman that after a cow has been giving milk three or four months, if she is allowed to shrink in her mess for any considerable length of time, she will not come up again during the season to what she would have done had not the unnatural shrinking occurred, yet the great majority of dairymen allow this to go on regularly every year as soon as the grass begins to fail. This loss is both serious and needless. Let us look at this a moment. It takes a very large share of the food cows eat to support their bodies. Prof. Stewart estimates it at two-thirds. As a rule, I think it takes more. It must be an excellent cow that will convert one third of the food she eats into milk. There are many cows that do not, during the whole of their milking season, convert more than one fourth of their food into milk, and if the food of the year is estimated it will be a less proportion still. The great bulk of food goes to support their bodies. Their food for support must come out of their rations first, and the profit arising from manufacturing the small remainder into milk is where the dairyman gets his money from. This small fraction of food must make milk to pay for itself and also for the larger share employed in sustaining the body, and should leave a surplus for the owner's pocket. It will take a pretty good cow this year, and she must be well cared for besides, to leave a surplus with the present prices of butter and cheese. Without a surplus the food of the cow is as much a loss as the fuel for running an engine that does no business. The per cent. of food converted into milk must be as large as possible, or the surplus will be wanting in the fall. Farmers this year cannot afford, from a want of food, to let their cows shrink down in their messes through the midsummer drought, which may reasonably be expected, as they will do beyond redemption if scantily fed. The necessity this season for keeping the milk-giving capacity up to its highest tension is greater than usual. To do this there must be no letting up in the supply of milk-producing food. Grass is in full supply now, but it cannot reasonably be expected to be so in the heat of the summer, and some provision