FARM AND FIELD.

PASTURAGE IN ONTARIO.

Professor Brown, of the Agricultural College, Guelph, gave an excellent practical address on the above subject at the recent annual meeting of the Eastern Dairymen's Association in Belleville. He went over part of the same ground traversed by him in his address before the Markham Farmers' Club, recently reported in these columns; but the following extracts embody, for the most part, entirely new matter, and will well repay careful perusal:—

"It was obvious that the Ontario farmers stood in need of pasture that -First, gives several crops per annum; second, offers an early and late bite; third, cannot be destroyed by drought or frost; fourth, gives the largest quantity and best quality of dairy produce at the least possible cost; fifth, gives the largest quantity and best quality of beef and mutton at the least cost; sixth, can be used as a soiling crop; seventh, keeps animals in the best health; eighth, is inexpensive to produce and maintain; ninth, is reliable at all times, and permanent. In establishing a permanent pasture, it was desirable that the kinds of grass selected should not all, or even many of them, ripen during one month or leave off altogether at the same time of the year. Beginning in 1877, they had had very great satisfaction in building nine grasses and five clovers, in connection with this subject, at the experimental farm. The lecturer here exhibited a diagram showing all the plants mentioned in the order of precedence. He called particular attention to the Lucerne clover, which gave the pasture a start at the end of April, and continued right into the snow. Its persistent monthly reproduction of a branchy succulent, giving sixteen tons per acre per annum, made it the king of soiling crops, and the most reliable in permanent pasture because of its repeated annual growths and durability. It was the only safe starter in April. The common red clover was not much behind, but only good for two cuts or 'bites' per season It did not give a monthly crop like the Lucerne. The famous British soiling grasses, Italian and perennial, followed these; and under very favourable circumstances helped from May to part of September. The people of Ontario would be surprised, indeed, were they able to grow these grasses as at Edinburgh, Scotland, where the annual rent, by cuttings for dairy cows, fetches $150 per acre. Fan oat grass was a four months' crop, and a thoroughly reliable one in any weather. Indeed, along with timothy, orchard meadow, fescue, and fan oat made of themselves all the bottom and variety the most of graziers need desire. Meadow fescue was a strong plant, not afraid of heat and difficulties. The common trefoil or yellow clover, while not much relished by animals, was yet of account in regard of variety, and stood well between the early red clover and the later white and alsike. The hunchy, strong, self-willed orchard was one of our standards, safe to stand, though equalled by meadow fescue and fan oat. In regard to the drought difficulty, it was not necessary to say much about timothy, the American hay plant, which was certainly of immense value in the list. It was later than some other grasses, but is always present from the end of May on to winter. The Kentucky blue grass was but one of the many members of the same family, common in nature all over the continent. Late grasses were not generally valuable feeding ones, and in his list were two—red top, and bent—which were not high in any part of the world for rich produce. As would be seen by the diagram, the combination of grasses which had just been described would furnish one growth in April, nine in May, thirteen in June, fourteen in July and August, with ten in September, and four fresh in October. This, he thought, should meet the desires of the most fastidious of cattle and sheep. In spite of the severe drought of last summer, the experimental farm permanent pasture was never bare nor wanting a fresh bite, though heavily stocked, but so close and strong was the growth that it had to be separated with the hand in order to afford an opportunity to examine the surface of the soil. The lecturer then proceeded to give the result of experiments or observations as to the conduct of some of the principal grasses as they stood in separate plots, side by side, on August 30th, 1881. Rye grasses and perennial chiefly look fresher, and are better as pasture than red top and timothy. Fan oat is about equal to meadow fescue, which is saying a good deal. Meadow fescue stands the drought better than orchard and timothy. Close, rich green, and vigorous orchard is somewhat behind meadow fescue and fan oat, but not much. Timothy is very good, but presents no bite for cattle. It is dry and somewhat withered, and takes a fourth place. Kentucky blue grass is wiry and dry, with a good sward. Red top, a good tough sod, is about equal to timothy, though presenting no bite. The lecturer next adverted to the fact that during the last half century the best managed old pastures of England had stood at more value per acre than the richest arable land, partly because of their permanency and the reliability of crops; and largely because of their being able to graze three cows per acre. He thought there was no reason why Ontario could not at least do one-third as well as England had in this respect. For three years in succession on the experimental farm, on a small scale, on comparatively old, permanent pasture, as well as on that of two years' standing, they had clearly proved that seven sheep per acre could be well grazed on permanent pasture. There was therefore no other form of fodder that could do the same thing. The average timothy and clover pastures of the Province in connection with mixed farming, just grazed one animal to every three acres, taking from the first of May to the middle of October. On an average of years it had been shown that three and three-quarter cows could be kept on three acres of permanent pasture of the kind required, and as two-year-old steers and heifers preparing for the butcher eat more than ordinary milch cows, he would say one beefing animal per acre. There were at present 20,000,000 of arable acres in Ontario, possessing practically no permanent pasture, but 3,500,000 acres of rotation pastures that do, or should, maintain 1,190,000 head of beefing cattle. If there was only one-tenth of this rotation pasture under permanent form, the annual gain to the Province would exceed $11,000,000. The magnitude and material value of a few acres per farm in first-class permanent pasture was thus apparent. When everything was propitious, and where no regular soiling crops were upheld, continuous crops could always be had from well-managed permanent pasture, early and late, at ten tons per acre green weight. While it could not be maintained that there was no trouble, time, and expense incurred in establishing successfully all that was desired in this connection, nor that its permanency and value could be upheld without fertilizing materials, it was difficult to see that once fairly afoot, permanent pasturage cost a great deal less per acre each year, proportionately to the produce received, than any other crops could possibly do. The successful establishment and maintenance of such a pasture implied: first, a favourable position; second, a deep, retentive, dry soil; third, a rich, fine, friable surface; fourth, early, thick, shallow seeding; fifth, no accompanying crop; sixth, no grazing during the first year, very little the second year, but heavy in after years; seventh, fertilizing every third year."

WHEN TO SOW ORCHARD GRASS.

In reply to a correspondent, the *Louisville Journal* says: Sow as soon as you can work the ground in spring, and on until the middle of April. For field culture use one and one-fourth to one and one-half bushels of seed per acre; for a thick lawn, two bushels.

MORE ABOUT THE "WORMS."

Rural New Yorker: Pasteur's observations of the action of worms are scarcely less remarkable, though less extensive, than those of Darwin. During his investigations as to the suspected propagation of virulent diseases by bacterial germs, a case occurred of cattle being attacked by splenic fever in pastures where they were isolated and apparently not exposed in any way to that particular infection. It turned out, however, that several years ago animals dying of that disease had been buried there, but very deeply. It occurred to Pasteur that although these carcases had been covered with ten or twelve feet of soil, the deadly germs might be brought to the surface by earth-worms. On inoculating rabbits and guinea-pigs with matter from the alimentary canal of some of the worms, all the symptoms of that form of anthrax were exhibited.

SILOS—ENSILAGE.

Country Gentleman: In answer to a question our contemporary says: Its disadvantages are—1st, the cost of the silo; 2nd, the cost of machinery for cutting with horse or steam power; 3rd, the necessity for cutting the fodder and filling at a busy season of the year, or near the time for sowing winter grain. The advantages are—1st, a sure method for preserving the fodder in a fresh state, without the usual loss of long exposure to rains; 2nd, the entire consumption of the whole fodder, stalks and all; 3rd, the ready digestibility of the fodder, shown by the increase of the milk of cows in bulk and quality, in all cases where properly tried.

CLAY UPON SAND.

New England Homestead: An article in the "Homestead," setting forth the efficacy of dressing mowing land with clay, reminds us of what a successful Vermont farmer told us not long since. The soil of his farm is a sandy loam, quite exhausted when he came into possession. Not far from the barn is a clay bank, from which he has annually filled his barn yard, for use as an absorbent. Carting it upon the light land, it not only served as manure, but also added to the sandy soil just the tenacious, heavy material it required. As our friend said, "That clay bank has raised my crops, supported my family, paid off the mortgage, and sent my son to college and my daughter to the seminary."

FENCES.

It is, of course, next to impossible to do away with fences altogether. Division fences of some kind are desirable; yet thousands of miles of useless fences exist throughout the country, which the thoughtful farmer should seek to remove. Few realize how costly a fixture the farm fence is. Illinois is said to have ten times as much fence as the whole of Germany, and it is claimed that Dutchess county, N.Y.. has more than all France, Germany and Holland combined. A few years since, in South Carolina, the improved land was estimated to be worth $20,000,000, while the fences at the same time had cost $16,000,000. The annual cost of replacement is at least a tenth of the first cost. A calculation made some eight years since placed the cost of the fences in the United States at $1,300,000,000. More than forty years ago Nicholas Riddle said the fences in Pennsylvania had cost $100,000,000. In Ohio they have cost a still larger sum; while in New York, only a few years since, the estimated cost of the fences was $144,000,000. Some time in the future many fences now in use will disappear, and boundaries will be marked with fruit and shade trees or neat hedge rows. —*American Cultivator.*

MR. JOSEPH HARRIS, in his "Talks on Manures," says that we can make our lands poor by growing clover and selling it; or we can make them rich by growing clover and feeding it out on the farm.

A FEW years since, says a writer, I had an old pasture that had almost run out, covered with weeds and patched with moss. I mixed a few barrels of salt and wood ashes, and applied about two barrels of the mixture per acre, covering about half the lot. The result surprised me. Before fall the moss had nearly all disappeared, and the weeds were rapidly following suit, while the grass came in thick, assuming a dark green colour, and made fine pasturage. The balance of the lot remained unproductive as before, but the following year was salted, with like results.