Increase of Permanent Pasture and Decrease of Cattle.

There has been for some years a continuous increase of permanent pasture in Great Britain. The ever increasing importation to England from foreign countries of breadstuffs, added to the higher rate of wages now paid, have led the farmer to the conclusion that the growing of cereals was no longer profitable. As the profits of grain-growing decreased the high price of meat seemed to indicate that the profits of the cattle feeder were greater than could be obtained by the growing of grain crops. The competition in beef and mutton was not so great as in breadstuffs, and the cost for labor was comparatively light. Hence the British farmer converted his wheat fields into pasture lands, and left the supply of breadstuffs more than ever to others. This might seem at first to tend to a proportionate increase of the number of live stock—the greater the acreage of pasture the greater the number of beeves and milch cows; but the very reverse has proved the result. There is a large falling off in the number of horned cattle. Not only has the produce of breadstuffs been decreased correspondingly to the decreased area under tillage, but also, as it has been pithily remarked, "the more grass, the less beef." This state of affairs, so unaccountable to many, is easily accounted for by observant agriculturists. A field under tillage yields a far greater quantity of food than the same field would in pasture. Of this any farmer may convince himself by calculating the feeding capability of a tract of land in pasture with the acreage of hay for winter feeding; and calculating the quantity of food he could raise from cultivated land of the same area and of equal quality. He will find the weight of food grown each year off an acre of tillage to be about four times greater than is taken off by grazing, and four times the number of live stock can be fed on land cultivated than on the same land in pasture; hence it follows that as the acreage of permanent pasture increases, the number of live stock decreases. The better course of farming is a system of mixed husbandry—a diversified agriculture combining the advantages of growing grain and feeding cattle. They both are of mutual advantage: Tillage enables us to feed more live stock, and the greater number of animals well fed and properly cared for enables us to keep the farm in such a state of fertility as to add to the yield and quality of our grain and other farm products.

Ontario School of Agriculture and Experimental Farm.

The third annual report of this School and Farm has been received, and we cannot say that we are satisfied with the results of three years' expenditure of money and labour on the Ontario Model Farm. The President of the Institution, no doubt had difficilties to contend with, and we presume he has done as much as many could do under the circumstances; but the report furnishes additional proof to confirm the opinions entertained from the first by many that it would not pay directly or indirectly.

In forming a judgment of the success of the experiment on the farm we must take into consideration its condition and capabilities, when acquired for the purpose. A farm that had been acquired for the Model Farm was condemned as of inferior quality, and the land now known as the Experimental Farm was bought at a high price. It was said on high authority to be every way suitable. The formation was limestone and the soil good—a fine rich loam, resting on a good subsoil of clay and limestone gravel. The land was in a fine state of cultivation, and the fences excellent and in good order. It was well watered having three streams running across it at nearly equal distances from each other. This farm from its variety of soils and the high character which it had long and widely attained from the breeding of improved stock seemed to meet satisfactorily the most important conditions required, involving no serious drawbacks. See Agl. Report 1873.

Farmers must have expected from the description given of the farm on high authority, and from the expenditure on it for three years, of money and labour, that it would now be in every respect a model farm. And "where do we stand? Midway in the work of making a Model Farm." It cannot be said to have been an impoverished soil, labouring under the want of accumulated individual capital, and under a system of peasant proprietorship.

The crops of last season were none of them as might reasonably be expected under the circumstances; in some instances they were very light. Of wheat there were twenty-one acres—the greater part under root crop in 1875, the remainder old pasture unbroken for twenty years—produce, three hundred and seventy bushels. Before sowing two hundred pounds of salt per acre, broadcast with the hand, were applied. And in the cultivation of this, as well as the other crops, there was no stint of fertilzers or of labour. For instance, to the turnip-land there was an application per acre of fifteen loads well rotted farm yard dung, and bonedust two hundred and fifty pounds, superphosphate two hundred and fifty pounds, gypsum one hundred pounds, and salt two hundred and fifty pounds. The hay was top-dressed with one hundred and fifty lb. of gypsum per acre. Produce one and a half ton per acre for thirty-nine acres and ¾ ton per acre for thirty-nine acres. Of hay fifty-eight acres were first crop, twenty acres second crop. A field of twenty-two and a half acres is called in the report a root bed of thistles. Many ordinary farm accounts show heavier yields than this highly praised Model Farm, with all its appliances of means to boot. The great mistake we believe was in purchasing the farm for what it was said to be, not for what it really was.

The estimated appropriation expenditure amounts to $22,570; capital amount $19,000. In the words of Report 1876 "*Money* can do much but *time* must guide most of our agricultural operations."

Horticultural Conference.

The twenty-third annual meeting of the Western N. Y. Horticultural Society was very largely attended, and must have been very profitable to the members. As the business of fruit growing increases year by year, so does it seem that the obstacles to be contended with by fruit growers also increase. The apple and pear trees are affected with disease; grapes rot in the clusters on the vines and insect foes innumerable prey upon our fruit trees and fruits. If we are to be successful in growing and saving any fruit, we must take frequent council together and learn from each other's experience. Hence the necessity of Societies such as the Western New York, and such meetings as this of which we write. In the N. Y. *Tribune* we have a very good report of the proceedings, but too long for the ADVOCATE.

On the question of grass or culture for orchards there was a difference of opinion, though there was but one opinion as to the advantage of cultivation and manure while the trees are young; some, however, would continue the same treatment after the trees have come to maturity. Some recommended seeding down the orchard when the trees are eight or ten years old, and then having it as a pasture for sheep and swine. This has been found an excellent way of contending with the codling moth. The fallen apples, teeming with the destructive insects, would be eaten up by the hogs. It would also aid in fertilizing the ground at little or no expense.

Dr. Sylvester described four methods of treatment for the orchard: 1—Cultivation and surface crop; 2—Pasture for sheep and hogs; 3—Alternate grass and and culture; 4—Constant grass with surface manuring. The pasturing by sheep and hogs he prefers, though by either method a good yield of fruit may be obtained, if the ground be always kept fertile. Some advised the occasional plowing in of green crops. Major Brooks said eternal vigilance and plenty of manuring are the price of fruit.

Another very effectual means of warfare against the codling moth is the use of bands around the tree from the middle of June until the crop is gathered. The band used to serve as resting places for the moth is about 2½ inches wide, long enough to encircle the tree, and fastened with a single tack. It is made of coarse straw paper, folded three or four times, a cheap felt doubled, or a heavy waterproof paper lined with cotton, flannel or cotton batting. In the dark, dry recesses of this band the moth deposits its eggs. The bands are now made by machinery, and can be easily got at a cheap price. Every eight or ten days the bands are taken off, the worms killed, and the bands replaced. Mr. Heath, who used felt last season, was successful in saving his fruit. For several hundred barrels of Northern Spy and Baldwin apples he was offered $3.75. When really good apples were scarce, those free from hole or speck commanded fancy prices. His orchard was almost ruined the previous year, when bands were not used.

FERTILIZERS FOR FRUITS.—Professor Dason, having compared the amount of nitrogen, potash and phosphoric acid required by a crop of apples with that required by a crop of beans, said a comparison of these figures will show the relatively small amount required by a crop of apples and the large amount necessary when a surface crop is taken. The food for a ton of apples is found in 2,000 lbs. of fresh cow manure, in about 250 lbs. of barnyard manure, or in 25 lbs. of superphosphate and 10 lbs. of wood ashes. Mr. Boyne admitted the value of barnyard manure and ashes, but the supply of them is limited. He used last year 13 tons of superphosphate, and found it a very easy way to supply the lack of stable manure. Its effects on oats, corn, seedlings and strawberries were remarkable. Wood ashes are very valuable; gas lime a dead loss. P. Barry and Dr. Sylvester both considered gas lime worthless as a fertilizer, not worth the hauling. E. Moody had never known wood ashes to fail. Mr. Hooker said there is nothing equal to barnyard manure. He who plants more than he can fertilize with it cannot succeed. A little commercial fertilizer, however, sprinkled on with the seed, seems to be serviceable to the growth of the young plant. He doubts whether equal effect will be seen afterwards in the crop, or whether commercial fertilizers can profitably be used in the orchard. So far there was but one opinion, and that favorable to the beneficial effect of manure of some sort or other on the orchard. E. Moody said his firm cultivate 160 acres; do not keep animals enough to manure one acre, yet expect to raise as much and as good fruit as those who use barnyard manure.

The apple crop of the past season was the topic of much conversation among the members. It was generally light, except in the south-western counties of the State, but better quality and higher prices in 1876 made the result satisfactory. P. Barry said it is now generally conceded that Western New York winter apples keep better than those of other localities. What he said of apples from that district may be said of Canadian apples, which are now known to be superior to any others in the continent for keeping as well as in other respects.