modern times was the question of preventing the constant and increasing flow of population from the country to the city. Modern tendencies were all towards centreing the population in the large cities. Commerce and manufactures are two forces which draw men from the farm to the city, while the existence of railroads makes it easier to drift towards the city, by bringing city influences quickly to bear on all parts of the country. The depletion of the fertility of farm lands, and the increasing difficulties in the way of making agriculture profitable, were also responsible for this movement to a great extent. The extensive system of farming where large areas of land were handled with comparatively a slight demand for laborers, thereby lessening the number of men required on the farms, had also a great effect in driving men to seek more profitable employment in the cities.

The cities of to day are overcrowded, and the extra population above that number for which there is profitable employment is a source of weakness to the country at large, for the surplus population of the cities become non producing and dependent, and are of no value to themselves or their country. What is the solution? The speaker believed that the solution lay in the new fields presented by agriculture, one of which was the adoption of a system of intensive farming.

The recent hard times for farmers had been caused by two things, the decline of prices of farm produce, and the constantly decreasing yield of farm crops. The remedy for this state of things lay in a system of intensive farming, which would secure maximum yields from the land, and thereby decrease the cost of production and leave a greater profit for the agriculturist. In this system, he believed, lay the solution of the whole problem of retaining the population on the farms.

In speaking here he wished to deal with the intensive system in connection with horticulture, and particularly with regard to the production of apples, which he regarded as a staple fruit, the demand for which was bound to increase in the future.

In growing apples, early productiveness is one great necessity for profit, and to secure this, we must do more than plant the trees and wait for Providence to bring them into bearing. The average time needed to bring trees into bearing was about twelve years, and sometimes more, and so long a period of waiting largely destroyed the profits of the business. In order to secure early production we must study the laws of nature, as shown in the principles of early maturity, the individuality of trees in this matter. All trees of the same kind were not alike in respect to early production. We should select the best and take our scions from these. He believed that, by selecting such scions, and grafting on hardy stocks, such as the Northern Spy, we could secure much better results in apple production. He instanced the King apple, which, on its own stock is short-lived and weak, but grafted on the Northern Spy was much more hardy, and gave much better results.

In choosing the scions to be transferred to any stock one should consider, first, the form of the tree from which they are taken, and by choosing one of good form we could get rid of much of the necessity for pruning. Secondly, we should consider the form and quality of the fruit, and the character of the tree with regard to early productiveness, in order that the best qualities possible might be transferred to the new orchard. The speaker affirmed that, in the matter of early productiveness, the time elapsing before the trees have grown might be shortened fully one-half. In proof of this, he showed some branches of the Dutton Beauty apple, which had been grafted on a Northern Spy stock three years, some trees of which had produced two bushels of fruit last year. The very fine development of fruit-buds on these branches bore ample testimony to the truth of his words.

In the treatment of these trees intensive culture of the soil was used, the soil being worked all summer until August. Last year, in spite of the unfavorable conditions, due to drought, very favorable growth was made.

The stocks he used for his scions in this method were three years of age and were transplanted from nursery at two years. He did not graft the whole top in one year, but in two or three years, thereby not checking the growth of the tree. The same possibilities were seen in the peach, which, by this method, had been made to bear in one and a half years after setting out.

In reply to a question as to whether early productiveness shortened the life of a tree or lessened its power of bearing later, Mr. Powell stated that it might have some influence in shortening the life of a tree, though he thought it was questionable. He was sure it would have no evil effects on the productiveness of the tree later, this being merely a question of nutrition.

In speaking of strawberry culture, Mr. Powell said that here the question of maximum production was a vital one, on account of the great expense of cultivating the crop. In treating these plants it was necessary to secure the highest yields, to practice intensive culture of the soil, and to restrain the lateral runners of the plants, which were reproductive and not fruit bearing. In 1898, by cultivation in the hill system, and carefully restraining the lateral growth, he had obtained plants measuring two feet across the foliage and having more than 600 set berries on each plant. In reply to a question as to whether this system would be suited to a species of rank growth, such as the crescent, he replied that it would not be suited to strawberries of this character.

In reply to questions, Mr. Powell stated that in grafts of apples on other stocks, not only was improvement obtained in the form of the tree and the qualities of its products, but in its power of resistance to disease. As an instance of this, he cited the Baldwin, whose leaf was very subject to scale, but which, when set on a stronger stock, showed a much increased resisting power to this disease.

Mr. McCoun, Central Experimental Farm, Ottawa, expressed his keen appreciation of Mr. Powell's lecture, more especially as the Ottawa Experimental Station was engaged in work upon similar lines. He had found that many varieties of apples which, grown on their own stocks, could not withstand the severe climate at Ottawa, were perfectly hardy when grafted on hardy stocks. The Duchess and Wealthy provided such hardy stocks. He cautioned people against the danger of grafting a rapid-growing scion on a slow-going stock, as in this case the tree would become top heavy and break down.

In reply to a question by President Mills as to the necessity of care in selecting grafts, and whether different trees of the same variety showed differences in the time of maturing their fruit, he replied that it was necessary to exercise care as to the kind of tree the scions were taken from. He had not noticed differences in time of maturing fruit in different trees of same variety.

A lively discussion followed, during which several interesting points were brought out. Mr. Powell, in reply to a question as to the trunks of grafted trees breaking down, replied that this may be avoided by placing the scions so as not to make opposite crotches in the trees. Grafts which do not grow should be removed and the wound in the stock waxed over, as, if dead scions are left in the stock, they are liable to produce disease. Asked if spraying was effective in preventing the attacks of fungi, he said that he believed it helped greatly, if done in time, early in the spring. Questioned as to the use of wind-breaks for orchards Mr. Powell said he believed they were very beneficial in sheltering the trees from violent storms. Norway spruce and white pine, he believed, were the best varieties of trees for wind-breaks. Wind-breaks should not be too solid, as they tended to produce large bodies of still air near to them, and increased the danger from frost. A question as to the benefit of scraping the trunks of trees brought on a general discussion as to means of destroying bark insects, during which it was brought out that spraying with whitewash was very useful in destroying certain insects, particularly the pear psilla and the oyster-shell bark-louse.

The meeting adjourned at the close of the discussion.

(*To be continued.*)