feet in a single season, and those uncultivated only about three inches. Burrill had made a test and found 12 per cent. of water in cultivated soil, and only 8 per cent. in that which had run to grass.

Constant Cultivation is necessary to get the best results; cultivation that will stir every particle of soil, to a depth of two o three inches. Granted that the soil in spring is saturated, then you should have twelve inches of rain during the season to keep up the supply. Husband this rain by tillage and give your tree the moisture needed for best results. Late fall ploughing tends to increase the supply, while early spring cultivation breaks the capillarity and saves the moisture by an earth mulch. Then every rain tends to compact the surface soil and encourage rapid evaporation; therefore the importance of at once cultivating the soil, after every rain, to prevent a serious loss of moisture.

Even Cover Crops tend to draw moisture from the soil, and therefore should be ploughed in as early as possible in t. spring.

Kellog, of Michigan, had found oats sown in July or August the best cover crop to supply humus to the land and protect the roots of the trees from winter killing, because the oat plants are dead in the spring, and therefore do not draw moisture at that season. Their excellence as a cover crop had been shown by Prof. Taft, of the Michigan Agricultural College.

Hitchings was an advocate of sod for orchards. He had adopted this system for years with success, but every summer he had mulched the trees heavily with cut grass or some such material. He had in this way encouraged his trees to root near to the surface, where they could easily drink in the least shower of rain, which could not percolate down to the deeper rooted trees. His soil was clay loam, very stoney.

Secrets of Success.—This important subject of Soil Fertility was still farther emphasized by Prof. Roberts, of Cornell University. Tillage and cover crops are, in his opinion, the two great secrets of success in orcharding. In clay soil there were too many large and too few small particles, and, for such soil, lime was beneficial because it tended to flocculate the small particles, and thus make it more open. Heavy rains tend to seal up a heavy clay surface, but surface tiliage unseals the lumps. If, after a heavy rain, we cultivate and form a loose earth mulch of dry soil, the moisture from below will only rise to the bottom of it. This constant cultivation, besides protecting the soil from loss of water, is a most efficient agent in setting free plant food.

Commercial Fertilizers Not Always Needed.—In fact there is in the soil, locked up, an abundance of plant food, and, if we only possessed the means of unlocking it and getting it out, we could sell fertilizers to the fertilizer dealers at their own price and make enough money to endow a college. The key to this, to a large extent, consists in constant tillage. Cover crops are useful by furnishing humus, and by helping to secure nitrification.

The physical condition of the soil, Prof. Roberts declared, was more important to tree growth than the addition of commercial fertilizers, for unless the soil is in proper condition, fertilizers will be wasted.

The St. Louis World's Fair was spoken of by Mr. A. W. Taylor at the Rochester meeting, who drew especial attention to the grand provision for horticulture in the magnificent combined building for Agriculture, Horticulture and Dairying, which was to cover an area of thirty-three acres—the largest building in the world of its kind.

The Anjou Pear was shown at Rochester by Messrs. Ellwanger and Barry and, as usual, the samples were magnificent. Several commercial packages of this pear were also shown; they were put up in a box 10 x 10 x 18 inches, each containing forty-two pears. The smallest of these pears measured 2½ inches in diameter, and the