summer and fall, not a weed being allowed to start. As soon as the ground froze, fully three inches of half rotted stable manure was spread over the beds, and the paths left open to let surplus water pass off readily. In early spring the paths were filled with straw to keep the ground moist, and prevent weed growth. A few of the plants needed help in getting up through the covering, but the most of them made their own way. This deep covering retards the blooming until danger from late frosts is past. If very large specimens are desired, the fruit must be thinned.

At a strawberry show in Kentucky the Clyde was shown so large that five made a quart. Such success can only come when every precaution is taken to supply the wants of the plant. Any injury to roots or leaves, any check for want of food and water, or any exhaustion from producing runners will prevent the best results.

M. Crawford in Strawberry Culturist.

THE STRAWBERRY BED.

(From a paper read by R. M. Kellogg before the summer meeting of the Michigan State Horticultural Society, August 10, 1899.)

The natural home of the strawberry is in a moist, loamy soil, rich in humus or vegetable matter. It will not flourish in a hard, flinty, lifeless dry soil. The claim that the root of the strawberry will penetrate any hard soil, the harder the better, is true only to a very limited extent.

It requires at least two years to bring land of moderate fertility to a condition to meet the ideal requirements of the strawberry grower. The application of large quantities of stable manure, raw, or even commercial fertilizers at one time, just before the plants are set, is bad. All manure must be thoroughly decomposed, actual dirt, before they can be taken by the plants. Rank, unfermented manure,
coming directly in contact with roots is always an injury and frequently kills the plant or causes it to make a viney growth. My idea is to manure heavily in the fall and winter and in the spring plow shallow, and then sow cow peas at the rate of at least two and a half bushels per acre, sown broadcast. When they have attained two or three leaves and the stems have become slightly woody the weeder should go over them breaking the crust and destroying the young weeds which germinate first, and then again in ten days to keep the surface mellow until the leaves so shade the ground that weeds are smothered. These peas will gather a large amount of nitrogen and fill the ground with an immense mass of humus.

When to Plow: Some careful experiments have convinced me that it is a great blunder to plow ground in the fall and leave it bare during the winter. The rain drops and frequent freezing and thawing puddles the surface causing it to dry out. A careful experiment of plowing alternate strips in the fall and spring will convince you of the injury done, unless some cover crop is used. In any case the peas should not be turned under until the wood is thoroughly ripe. It is vegetable fiber we want, and this is not secured by plowing under green stuff, which is practically water.

How to Plow: Formerly I was an enthusiast for deep plowing, but I am thoroughly convinced that in ordinary soils the turning under of ten inches is about five inches too much, unless you have sufficient vegetable matter to put it in the proper mechanical condition. Subsoiling is of prime importance on hard pan or gravel clay.

Wood ashes are a specific fertilizer for the strawberry. They not only dissolve the plant food already in the soil, rendering it immediately available but they impart to the
fruit a firmness and bright color especially desirable. Their caustic properties require that they should be applied some time before the plants are set and diluted by being worked into the soil.

To plow this vegetable matter to the bottom of the furrow, leaving the dense soil at the surface, is a blunder often made. It leaves the ground bottom side up. We want as much of this vegetable matter at the immediate surface as possible. It not only prevents the crust formed by the rain drops puddling the surface, but it separates the soil grains so that the rise of water by capillary attraction is very slow, and the ground will not dry out quickly. If necessary to plow a second time to accomplish this, it will be found the most profitable work connected with the fitting of ground. It will be much more than compensated for by the subsequent cultivation, since the crust will not form as thick as if the surface was poor in humus.

Another thing on which I wish to place especial emphasis is the rolling of the ground a day or so, not more, before the plants are set, to give the water a chance to draw up so the ground will be moist, and aid in the accurate setting of the plants. If it be left several days the surface should be loosened up an inch or two with the weeder or very light harrow, to conserve moisture.

I most decidedly prefer to set plants so as to form a hedgerow, and after all the plants are filled in, the rest of the runners are clipped off with the rolling runner cutter. It works perfectly where there are not too many stones. I prefer to attach it to a hand wheel-hoe, as it can be used more skillfully than on the cultivator.

 Cultivation: We always cultivate immediately to prevent escape of moisture where the earth is packed down hard around the plant. Cultivation must be shallow, thorough and frequent. I have never seen a tool equal to the
Planet Junior twelve-tooth cultivator with the pulverizer attachment. It leaves the surface perfectly level and loose, so the water below is prevented from rising to the surface by capillarity.

Cultivation adds no water to the soil but it does hold that already there for the use of the plants. It aerifies the soil so that the millions of living organisms which prepare the food for the plants can do their work and, at the same time, it renders other minerals soluble so the plants can take them up and make a vigorous growth, and last and least it is done to prevent the encroachment of weeds. Most any grower will cultivate to destroy weeds, but neglects it when necessary to accomplish the other equally important results.

Examine texture of your soil and determine how thick the loose earth or dust mulch should be, and never allow the teeth to go any deeper. Some soils require two inches, and very few exceeds three inches. No person must expect to grow fine fruit who sends the cultivator teeth down among the feeding roots and tears them to pieces.

TO PREVENT STRAWBERRY RUST.

Strawberry plants should be grown in a special plat from carefully selected plants which show a tendency to form strong fruit buds. The propagating beds should be sprayed with Bordeaux mixture immediately after the plants are set, using the atomizer sprayer as it will give the plants the finest mist. It will destroy every spore of rust and leave the foliage as clean and waxy as the newest growth.

For several years I tried to eliminate this disease by selecting plants which would resist it. We all know it is a fungous growth and, under favorable climatic conditions, will spread very rapidly. Some varieties are more susceptible to it than others, and these are our most productive