direct sunlight. When so herded together, the area occupied by them becomes yellow and it is impossible to see the rind of the fruit at all. The mites in this mass seem to be stuck to each other like numerous angle worms. They are a writhing, wriggling mass and crawl around without any apparent object or direction. Shortly after this congregating the dead bodies of the mites are observed. They occupy the same spot in the direct sunlight as they did before death. The dead bodies take on a more brownish color than when alive. This congregating habit is contrary to the normal habits of the species. Normally this species seek semi-sunshine or partial shadows and are not found in great abundance on the part of the fruit in direct sunlight. This abnormal habit of congregating has been observed many times since 1920.

It has also been observed that most of the adult mites change color from a lemon yellow to a darker or orange yellow. They also become somewhat sluggish in their movements.

An examination of the dead mites usually shows that certain fungal filaments protrude from their bodies. In most instances, also, there are fungus bodies on the inside of the dead mites. In fact, these bodies have been observed in mites which were still alive but which had changed color and become sluggish in their movements. The presence of these fungus bodies in the living mites indicate that the time is approaching when the species will disappear.

There is an enormous amount of data on file in the Bureau of Entomology which proves beyond the possibility of a doubt that the rust mites always become much more abundant following the use of copper sprays or compounds than they do on unsprayed trees and fruit. They are also abundant a considerable length of time after the beginning of the rainy season when scarcely any mites are present on trees not sprayed with copper sprays. The use of such fungicides evidently eliminates the fungus disease which in all probability under normal conditions would have attacked the rust mites. It seems, according to the circumstantial evidence already obtained, that it is reasonably certain that an entomogenous fungus attacks rust mites in Florida. In all probability this same disease attacks the species wherever the climatic conditions permit.

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PREVENTION OF WEAK LEGS IN EXPERIMENTAL CHICKENS

A DISCUSSION by J. S. Hughes appearing in SCIENCE, February 29, 1924, stated that young chicks often could not be successfully raised in confinement for experimental purposes. He attributes failure to the fact that rickets or "weak legs" develop, due, he thinks, to the absence of direct sunlight. His remedy is to expose the chickens for a few hours each day to sunlight which is not filtered through glass, or to include in their diet cod liver oil, which he has found will prevent the disease.

At present, April 1, 1924, we have in the laboratory 21 chickens which were hatched November 12, 1923. When three days old they were placed in small cages which had been previously sterilized. From that time on they were given no food, grit, water or litter that had not been sterilized. The room in which they were kept was not particularly sunny, and never at any time were they exposed to sunlight that was not filtered through glass windows. Their food consisted chiefly of buttermilk mash, which was always available. When about eight weeks old small amounts of bone meal were mixed with the mash, and raw potatoes were fed to them about twice a week from that time on, the outside of the potatoes being sterilized by immersing them in boiling water. A few carrots were similarly treated, but other than that no vegetables were given. A mixture of fine grains and an abundance of crushed oyster shell and grit composed the remainder of the diet, with the exception of a few dozen hard-boiled eggs, which were fed during the first three months.

None of this lot of chickens has shown any tendency towards the development of "weak legs," although at no time exposed to unfiltered sunlight or furnished cod liver oil. Only a small amount of hard-boiled egg was fed at any time, but the normal development of these chickens may have been to a large extent due to this ingredient in their diet.

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PERMANENT PHOTOGRAPHS

PROFESSOR PEIRCE'S letter in SCIENCE for April 4 (LIX, No. 1527, pp. 318–319) and Dr. Howard's letter for May 9 (LIX, No. 1532, pp. 422–423) have recalled to the writer's mind an experience, the results of which are of interest to any one making a collection of photographs in which the first requirement is permanency of the photographs collected.

In August, 1915, the writer moved from Palo Alto, Calif., to Ithaca, New York. Boxes of freight containing his books, instruments and miscellaneous collection of photographs were routed east by way of Galveston and New York City. At Galveston they were caught on the wharf by the hurricane of August