

SUGGESTIONS TO FARM FLOCK CO-OPERATORS

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**Poultrymen Suffer Losses Due to Coccidiosis—Damp Weather Favorable to Development of Disease—Control Effected by Proper Feeding—
Leg Weakness Caused by Improper Assimilation of Minerals**

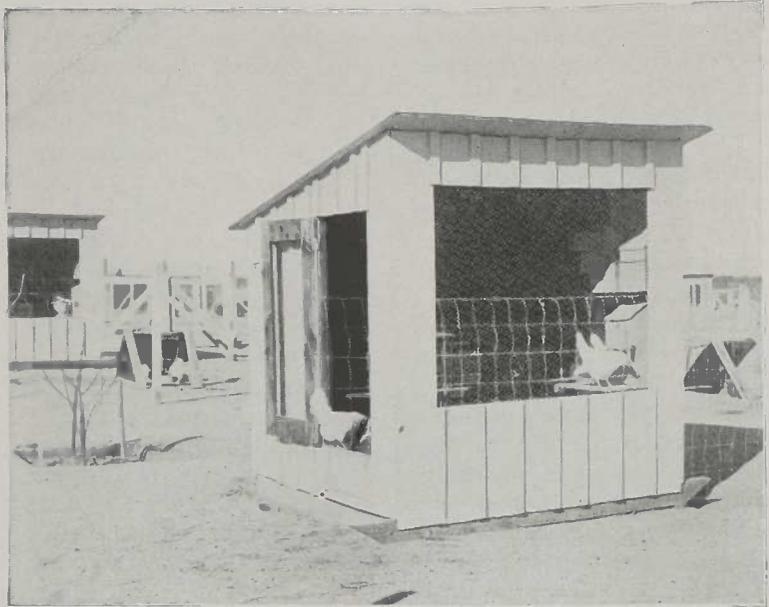
DUE to the damp weather this spring the Arizona poultrymen have been experiencing greater difficulties than usual in brooding baby chicks. Normally the warm dry spring weather makes it possible to have baby chicks, a day or two old, out on the dry soil and in direct sunlight. This condition makes it possible to successfully control two of the most menacing diseases of young chicks, namely, leg weakness and coccidiosis.

So far, this year, Arizona poultrymen have been put on a par climatically with poultrymen on the coast, and, never having experienced the trouble before, many are losing large numbers of baby chicks, especially from coccidiosis.

Coccidiosis is one of the most distinctive of all chick diseases, and in order for the germ to complete its life cycle there must be damp conditions, either in the brooder house or in the soil on which the chicks are running. The spore, the form which the germ takes when passed from the bird's body in droppings, is not capable of producing the disease in uninfected birds. These spores must remain in the moist earth or litter in the presence of air for at least two days, normally longer, before they change into a form which, when taken into the bird's system, will cause coccidiosis. The above-mentioned spores are very resistant to disinfectants and it has been found impractical to try to rid the premises of it by applying commercial disinfectants. Drying seems to have a greater killing power for the spores than anything else tried to date.

Coccidiosis is most distinctive in lots of chicks about three weeks of age, and it seems to affect the largest ones in the lot first. The most noted external symptoms of the disease are a lack of appetite; a droopy, listless condition, and, in most cases, blood in the droppings. The internal symptoms are a swollen condition of the seca, or blind intestines, which are filled with a cheesy-like material, often red in color from the presence of blood.

The best-known method of controll-



Portable poultry house for small flock, University poultry plant

ing the disease, is to take the water and mash away from the birds, allowing them only sour milk or buttermilk to drink, and grain and green feed to eat. If semi-solid buttermilk is used, dilute it to about one part semi-solid to three parts water. Continue this method of feeding until all signs of the disease have disappeared.

Leg Weakness

Leg weakness is caused by an improper assimilation of calcium and phosphorus for bone development. The ultra-violet rays in the direct sunlight have been proved very effective in making proper assimilation possible. The only other factor that has been found to be likewise effective is the presence of vitamin "D" in the ration. This is best supplied by the addition of cod liver oil at the rate of one pint of oil to 100 pounds of mash.

If, at any time during the development of the chicks, the weather is such that it is impossible to get them out in the sunlight for about a week, which is likely to happen this spring, cod liver oil should be given in the proportion mentioned above. Do not mix the oil with more mash than the birds will use in about a week, as it deteriorates from exposure to the air.

CODDLING MOTH EGGS

HATCH UNDER WATER

Codling moth eggs will hatch under water and the larvae will live in the water for a time, according to R. E. Smith, of the University of California. Professor Smith was hatching some codling moth eggs in a glass jar. One evening at the close of work he filled the jar with water at 62 degrees Fahrenheit, hoping by this means to check further hatching of the eggs overnight. At 9 o'clock the next morning 36 larvae had hatched from about 300 eggs in the jar. The larvae were all alive, clinging to the sides of jar and completely submerged in the water. Some had crawled a short distance from the egg cases. The remainder of the eggs hatched normally under observation during the day. The water was syphoned out. The larvae readily attacked an apple which was placed in the jar.

These tests indicate that the codling moth can probably hatch and live under conditions of heavy rain and dew. Just how they are able to live under water is not fully understood, since it is known that older larvae when dropped in water die in a few hours. Possibly a slight film of air contained in the eggs adheres to the insects and enables them to live for a time under water.