



W. F. Gore, Clinton, N. C., exhibits cotton harvested from test plantings which were treated and untreated. Treated cotton on his farm showed an increased yield of 25.9 per cent over the untreated planting.



Nearly all white, the Silver cock presents a handsome sight with vest and collar of iridescent blue.



Dr. Fred E. Steere, physician and druggist, Claremont, Va., is a pioneer in breeding fancy pheasant strains.

## Copper Aids Delaware Crops

By J. H. SKINNER, Jr.

BECAUSE the part played by the so-called "minor elements," including copper, manganese, zinc, boron, and iodine, in soil production is receiving growing attention from soil scientists, the Agricultural Experiment Station at the University of Delaware was chosen by the Crop Protection Institute in 1933 to conduct research in the use of copper as a plant nutrient and soil amendment.

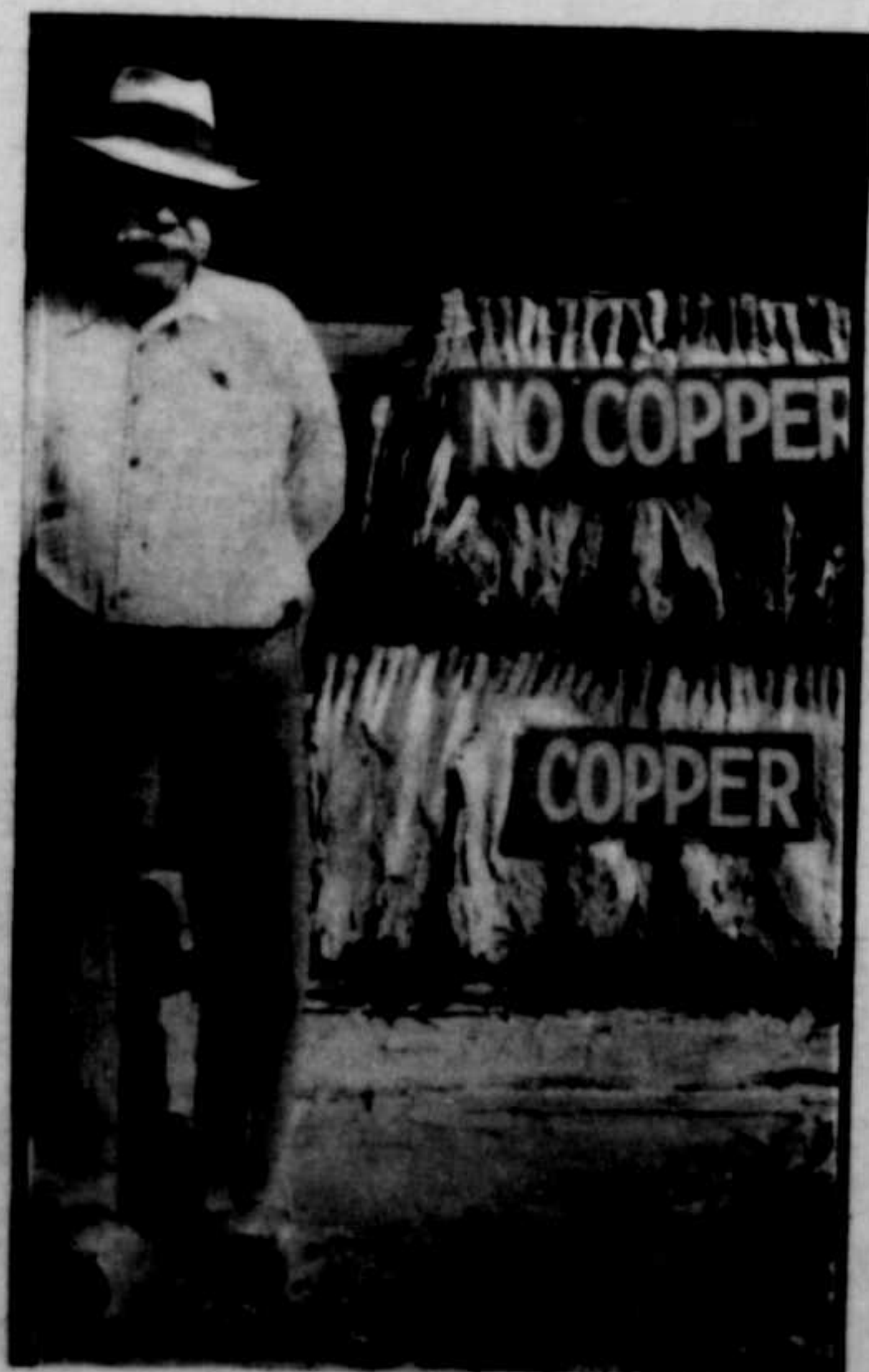
This work has been progressing since then under the supervision of Dr. T. F. Manns, of the Delaware Experiment Station. Much of the early work was done by Raymond Russell, now in California, while Walter L. Churchman has been conducting the more recent research.

In 1933, Dr. Manns and Mr. Russell, working with Delaware soils, obtained favorable results on both corn and wheat by use of the Neubauer method. This consisted of planting samples in large earthenware pots and fertilizing different pots with varying amounts of the copper sulphate mixture. Field experiments that year also showed increased yields on corn, potatoes, and other crops when varying amounts of fertilizer containing 50 pounds of copper sulphate per ton were used.

### Scattered Test Plots

The work progressed during the next two years, with special emphasis being placed on research on cotton and tobacco yields. In April, 1935, Mr. Churchman was placed in charge of the field work. His methods included planting test plots in sections of North Carolina, South Carolina and Virginia. Each test plot consisted of several 100 yard rows. The first four were fertilized normally and the next four were given the same fertilizer plus copper sulphate which had been mixed with the fertilizer in the ratio of 50 pounds per ton. The next four

J. H. Wood, Skipworth, Va., found the treated tobacco worth \$18.67 per acre more than the untreated.



rows received no copper sulphate, and so on. At harvest time, the two center rows in each group were harvested, stored, handled, and sold separately.

While the handling methods and the curing methods, in the case of tobacco, were identical, the produce of each group of rows was kept intact and was marked.

Results of the tests showed in 1935 an average increase of 43.9 per cent in yield for tobacco with a 10.39 per cent increase in quality and a 54.29 per cent increase in farm value.

### Cotton Yields Increased

Cotton yields were increased by an average of 17.9 per cent while yields of corn showed an average increase of 11.35 per cent. Although the experimental work with other crops, has, as yet, been according to Dr. Manns, too limited to

yet be of much value. Copper sulphate treatment increased the yields among sweet corn, squash, and tomatoes.

The copper sulphate used in the experiments was in snow form, mixed with fertilizer at the rate of five pounds per each 200 pound bag of fertilizer. No special fertilizer was chosen, but the mixture normally used for the land on which the test was to be conducted was used in the experiment.

According to Mr. Churchman, while the experimental work with copper sulphate has, to date, shown favorable results, much work needs to be done before recommendations can be made which will cover all types of crops raised in the Middle Atlantic States.

## Virginia Cattle Security for Loans



THE secretary-treasurer of the Wytheville Production Credit Association inspects beef cattle on the farm of G. B. Simmerman of Max Meadows, Virginia. The cattle furnished security for a loan from the Wytheville association, which is one of the 14 associations serving the state.

Virginia production credit associations loaned farmers over \$2,000,000 last year to purchase livestock, fertilizer, seed, supplies and equipment, and are now in the midst of another busy season making loans for this year's crops.

Production credit officials explain that the difference between the 5 per cent interest rate on cash loans and the time-credit charges for fertilizers and farm supplies will often mean the difference between profit and loss on a major crop or dairy herd.

Most loans from production credit associations are made for periods of less than one year with interest charged for the actual number of months the money is outstanding, and are secured by crops and livestock.

Virginia farmers have bought many horses during the past two years to make up for workstock lost and not replaced during the depression. Here, too, production credit associations are coming in to finance some purchases.

Virginia credit associations have headquarters at Abingdon, Accomac, Appalachia, Chatham, Christiansburg, Farmville, Richmond, Roanoke, South Hill, Staunton, Strasburg, Warrenton, Waverly and Wytheville.

## Game Birds are Doctor's Hobby

By CORNELIA S. BURT

BREEDING of game birds is the hobby and side-line of Dr. Fred E. Steere, physician and druggist of Claremont, Virginia.

His collection of pheasants includes Golden, Silvers, Ringnecks, Lady Amhersts and Reeves.

Of these, the most striking is the cock of the Golden. With brilliant plumage of yellow, orange, and bright red, with relief touches of blue black, he is, indeed a haughty autocrat, golden crowned.

The handsome Silver cock is nearly all white, with breast and throat of iridescent blue.

### Pioneer Pheasant Breeder

Reeves and Ringnecks are of subdued colors, but, none-the-less aristocrats. Tail quills of some of these measure from 20 to over 30 inches. In the heavy sleet of last winter, some were fast bound to the ground by ice and were pulled out in the frantic effort of the birds to free themselves.

Dr. Steere was the first to introduce in Virginia, the breeding of fancy strains of pheasants. He bought a few pairs for pets. As his interest grew, he added to his collection. In addition to pheasants, he now raises hundreds of bob-white quail and has a few wood ducks.

Silkie hens and Golden Seabright bantams are used for hatching the frail eggs and as foster mothers. Modern and artificial methods of incubation and breeding are also used.

### Sells Eggs and Birds

Dr. Steere is a native of Petersburg, Virginia. He was graduated from the Medical College of Virginia, at Richmond, and practiced his profession in that city several years. About 20 years ago, he located in Claremont.

Not-with-standing frequent calls as a physician, Dr. Steere spends much time working with his birds and in packing and shipping eggs and birds to distant, and nearby markets.

Subdued in color, the Reeves pheasants are never-the-less aristocrats of the game fowl world.

