

gards the effect of fertilizers on color are set forth in the following statement:

"The results as to color of fruit lack uniformity, and were not decided enough in a sufficient number of the twelve seasons to enable us to state that the fertilizers applied improved the color of the apples. The influence on color was most marked in the seasons when the climatic conditions were unfavorable to the development of the fruit."

All the plots had nitrogen and humus added by means of cover crops, and the trees showed marked improvement by the system of cultivation and the cover cropping adopted during the twelve years of the fertilizer test, as opposed to growing them in sod, as had been the practice before.

The experiment proved that the orchard soil at Geneva, on which trees had been growing for more than fifty years, had still sufficient potash and phosphoric acid for the need of the crops being produced after that time. From the results obtained, fruit-growers are advised not to spend much money in expensive fertilizers until they find out whether their soil really needs them or not. The closing sentence of the summary expresses this in a few words: "As long as the trees are making good wood growth, and producing average crops of well-colored fruit, it may be taken as granted that they need no additional food from fertilizers. If the contrary be true, the fruit-grower should put in operation tests with fertilizers to ascertain what plant foods his soil needs."

SELLING MARKET - GARDEN STUFF.

The demand for quality is increasing very fast; the public is becoming discriminating, and I am glad of it. It gives the progressive grower a very decided advantage over the other fellow. The critical trade is the one to cater to; they will pay the price.

I have my vegetables put up as uniform in size, color and variety as can be. Nothing looks worse than two large beets and a small one, or two Crimson Globes and an Egyptian or Half-long in the same bunch. Have them washed as clean as water will make them. Put them in clean baskets or nicely painted crates; the appearance helps wonderfully in the selling. Not long ago I was on the market in Chicago, and the sloppy manner in which the vegetables were brought in was disgusting. I was really ashamed to say I was a gardener. And the prices obtained were in accord with the quality of the stuff. You can't take too much pains to have your truck right. Grow the best varieties in the best way you can, and then have your product look its best when ready to sell.

I never go on a market. I sell direct to the grocery stores. Now, please don't say you can't do that. A friend of mine in Detroit who has a 200-acre garden said he couldn't, but I persuaded him to try, and now he does not go near the market, and is making lots of money. One thing I want to say here in large letters, MARKET YOUR OWN STUFF. It is the most important part of the whole process. No one can handle the dealers as well as you can yourself. Teach your dealers you are absolutely honest with them; don't try any tricks; if your stuff is fine, say so; if only fair, say so; and if not good, don't take it; and, above all things, have one price for all of them; don't cut; if you do, you will have that man thinking you cut to someone else. Don't give more than a bushel, but give that; and be regular; be there every day at a certain time, rain or shine. They will soon be looking for and depending upon you. Don't be afraid to ask a price; don't be cheap; that won't draw trade; if you are sure to be there with goods of the right quality, you can get the price.

A few years ago I began beautifying my garden by bordering the walks with flowers and using great care to have my rows straight. I did it at first for my own benefit, but it was the best drawing advertisement I ever had. It even drew Dr. Bailey from New York State to see it. You would really be surprised to see how much interest the dealers take in it now. Every day some of the dealers come out to see "the place where I buy my vegetables." It makes marketing an absolute pleasure. All the twenty-four dealers in my town are personal friends; and not only the dealers at home, but those in Detroit to whom I ship, come out regularly. On a recent visit, one of the largest dealers gave me an order for all my asparagus, a hundred dozen bunches of onions per day, and all my raspberries and grapes. Why? Because his wife enjoyed the flowers. Besides this, I would not have missed the praise given me by Dr. Bailey for all they have cost me.

There is another side to this worth looking into: the effect a neat, well-kept garden has on help. It certainly makes them more contented and interested, else why are all the large manufacturers going to so much expense to make landscapes of their factory sites? And isn't the pleasure it gives your family worth considering? —(O. G. Bishop, of Michigan, before the New York Horticultural Society.)

POULTRY.

THE CURTAINED - FRONT POULTRY HOUSE.

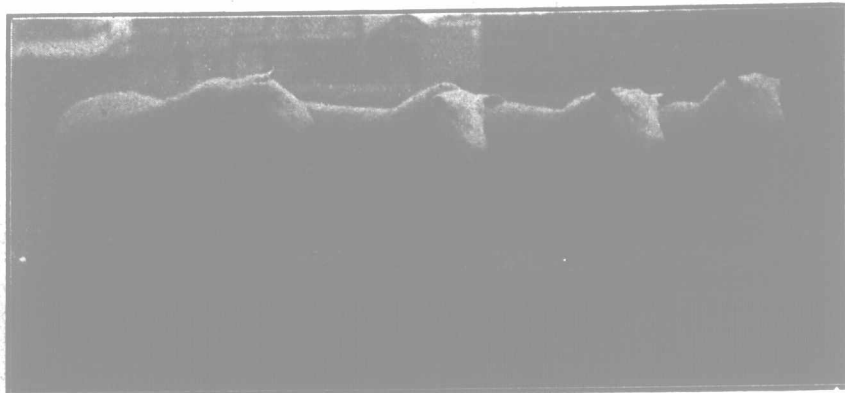
Second Part of a Paper Prepared by A. F. Hunter, Abington, Mass., U. S. A., for the National Poultry Conference, University College, Reading, Eng.

Many modifications have been made of the combined roosting-pen-scratching-shed type of house, the modifications taking the form of bringing the roosting room within the scratching shed, in rear of the open-front shed, and above the open-front shed. Quite a number have been built with the shed in front of the roosting room, but this plan is open to the great objection that the sunlight is then wholly cut off from the roosting pen. The cutting off of sunshine from any part of the poultry house is a grave mistake, which will show effects in diminished profits.

The most successful and widely-popular poultry-house plan is that in which the entire floor of the pen is open for exercise room, the roosting apartment being placed in the rear part of this pen, lifted so far above the floor that all the space beneath is easily accessible. These houses are built either as single pens or continuous, some of the latter being three, four or five hundred feet long, and housing as many as two thousand head of fowls. This curtained-front type of house is the one adopted on the largest intensive poultry farms in America, and its adoption has decidedly aided to the success of those poultry farms.

Probably the Go-Well Poultry Farm is the best example of the curtained-front type of house, although Lakewood Farm, Woodlands Farm, and others, where from two thousand to six or eight thousand head of laying stock is kept, could be cited. Go-Well Farm is owned and managed by Professor Gowell, of the Maine Agricultural Experiment Station, and the plan of house he elected to build is largely the result of experimental work he has done at that Station.

The Go-Well Farm poultry house is 400 feet long by 20 feet wide, is divided into twenty pens



Leicester Shearling Rams.

In the noted flock of Messrs. A. Cameron & Son, Westside Farm, Brechin, Scotland.

20 feet by 20 feet each, and a hundred Barred Plymouth Rocks are housed in each pen, there being room for wintering 2,000 birds in the one house. One man does all the work of caring for the 2,000 head of layers, and, to facilitate doing the work, a trolley-car is provided. The trolley car depends from an overhead track, and, to get room for the trolley tracks, a double-pitch roof was decided upon. Two-fifths of the slope of the roof is to the front and three-fifths of the slope is to the rear, which brings the apex of the roof over the center of the clear space of the pens, not including the space occupied by the enclosed roosting closet at the back of the pens. The description of the curtained front of the pens, copied from Bulletin No. 136, of the Maine Agricultural Experiment Station, is as follows:

"The building is divided by tight-board partitions into twenty sections, each section being 26 feet long. The front side of each section has two windows of twelve lights of 10-in. by 12-in. glass, screwed on, upright, 2 ft. 8 in. from each end of the room. They are 3 ft. up from the floor. The space between the windows is 8 ft. 10 in. long, and the top part of it, down from the plate, 3½ ft., is not boarded, but left open, to be covered by the cloth curtain when necessary. This leaves a tight wall 3 ft. 10 in. high, extending from the bottom of the opening down to the floor, which prevents the wind from blowing directly onto the birds when they are on the floor. A door 16 in. high and 18 in. wide is arranged under one of the windows, for the birds to pass through to the yards in front; this door is placed close down to the floor. A light frame, made of 1-in. by 3-in. pine strips, and 1-in. by 6-in. cross ties, is covered with 10-oz. white duck, and hinged at the top of the front opening, which it covers when closed down. This curtain is easily closed up into the room, where it is caught and held by swinging hooks.

"The roost platform is made tight, and extends along the whole length of the room against the back wall. It is 4 ft. 10 in. wide and 3 ft. above the floor, high enough so that a person can get under it comfortably when necessary to catch and handle birds. There are three roosts framed together in two 16-ft. sections; they are 1 foot above the platform and hinged to the back wall, so that they may be turned up out of the way when the platform is being cleaned. The back roost is 12 in. from the wall, and the spaces between the next two are 16 in.; they are made of 2-in. by 3-in. spruce stuff, placed on edge, with the upper corners rounded off. The roosting closet is shut off from the rest of the room by curtains similar to the one described above; for convenience in handling, there are two of these, each 10 feet long. They are 3 feet wide, and are hinged at the top, so as to be turned out and hooked up. The space above this curtain is ceiled up, and in the ceiled space are two openings, each 3 ft. long and 6 in. wide, with slides, for ventilating the closet when necessary."

This is Prof. Gowell's description of the curtained-front pens and curtained-front roosting closets in his 400-ft.-long house. The elevated roosting closet, enclosed by a curtain in front in cold weather, is but a modification of the separate roosting-laying room in the scratching-shed type of house, and this "scratching-room with elevated roosting closet" type of house is the best result of the efforts to secure the advantages of the open front of the scratching shed, combined with a separate roosting room. The separate roosting room is given up for the sake of economy of space and cost, and we have in this type of house the maximum of efficiency for a minimum of cost—a point too frequently overlooked in building poultry houses.

An important point in connection with the curtained-front poultry house is the relative size of the curtain, the proportion of the front which is cloth curtain. In Prof. Gowell's house about one-fourth of the front is curtain, or, is all open excepting when closed by the curtain. From this small curtain area, up to practically an all-curtain front, there are various proportions of curtain and boarded front, with a tendency to make more and more of the fronts of curtain; i.e., the fronts of pens open excepting when closed by the curtains at night, in cold weather, and on stormy days.

When we go southward from New York City, we find the houses without any front curtain at all—only curtains to close down in front of the roosts on cold nights. In two or three instances this is varied by no curtain in front of roosts, but the curtain in front of pen. Still further south, all curtains are left out, and the houses are practically open-front sheds.

The net results of this fresh-air revolution have been a substantial bettering of the health of the flocks, increased egg yield, and better profits. The damp, close, unhealthy atmosphere of the closed houses has been changed to fresh, pure, out-of-doors air; no hoarfrost gathers on the roofs and walls in freezing weather, to melt and drip, drip down upon the floor beneath as soon as the sun warms up the roof and walls in the morning, and a surprising thing is that, week by week in winter the temperature in the curtain-fronted houses ranges but one to one and a half degrees lower than in similar houses with glass windows and no curtains. With a drier, pure air, but one to two degrees lower, it will be readily understood that the conditions are decidedly more healthful in the curtain-fronted houses.

In an address at a field meeting in Connecticut last summer, Professor Rice, of Cornell University, told of their experience with ventilating through cloth curtains. They had been using tightly-closed houses with glass windows, mistakenly thinking they were keeping the cold air out and the air warmed by the heat of the birds' bodies in. They had, however, an increasing percentage of colds and roup, infertility of eggs, and other evidence of weakened stock. For a long time they could not understand this, and finally tried two cloth-front or open-shed pens. The results were immediate. Roup and kindred troubles decreased; the birds evidenced by their brighter faces, "harder" plumage, and generally better condition, that the curtained-front was a great gain. The following year two more curtain-fronted pens were added, and now all the stock at the Experiment Station is so housed. Roup and cold have practically disappeared, the eggs are showing a far better percentage of fertility, and they are getting stronger and better chickens.

Nor are the decided benefits of the diffused ventilation through cloth curtains confined to fowl