

Walpole Retires As Extension Agricultural Engineer

NEWARK, Del. — Ernest W. Walpole will retire June 30 after 20 years of service as Extension agricultural engineer, researcher and teacher at the University of Delaware. A specialist in structures, he is best known for his work with the Delmarva broiler industry.

A native of Canada, Walpole earned his undergraduate degree at the University of Guelph (then Ontario Agricultural College) and taught there for seven years before coming to the U.S. to attend graduate school. After earning a masters degree in structures at Iowa State University, he worked in the lumber industry for several years. He came to the University of Delaware in 1962.

Over the years, Walpole helped the boiler industry make significant improvements in poultry house design and construction. "When I came to Delaware there was no insulation in chicken houses and there were no truss houses," he recalled during a recent interview. "Today we have what I think are the best engineered houses in the whole country." When asked what led to the dramatic improvement in construction practices, he said he

thought one reason was simply that the time was right.

"At first, improvements were tied to feed conversion — producers decided they had to keep houses warm to get good feed conversion, and it was inordinately expensive to warm a house that wasn't insulated. Also, without insulation, it was so wet inside that condensation ran out of the windows. Something had to be done," he said.

According to Walpole, Delaware was ahead of the energy crunch of the 1970s in making poultry house improvements. "I came in January, 1962, and in October we held our first broiler housing seminar. It has continued ever since as a forum for telling the industry about new ideas in all aspects of housing," he said.

The specialist said he found the Delmarva broiler industry very receptive. "I think the reason was that we never pushed any concept just because it was theoretically good. We always presented the economics of everything we recommended and the poultry people listened to our ideas about dollars and cents."

One reason structural improvements recommended by

Walpole and other engineers were so readily adopted was that the broiler industry was expanding rapidly. "I don't recall what the level of broiler production was in 1962, but it has probably grown on the average of 5 to 10 percent a year ever since, so there were lots of opportunities to build new houses. Also, the bigger companies are always looking for new growers, offering incentives to put up new housing. As a result, you don't see many broilers coming out of shed houses any more," he said.

At the start of the energy crisis in the early 1970s, Walpole and his colleagues at the University of Delaware were recommending 2 inches of insulation for an entire broiler house — sides and roof. As fuel costs rose, they gradually upped this recommendation. To help determine the most cost effective amount to use, Walpole suggested that fellow engineer Dr. Norman C. Collins develop a computer program to evaluate the effect of various insulation levels on fuel use during growout.

For several years Walpole sent broiler companies on the Delmarva peninsula a weekly printout, estimating the amount of fuel they should have used the

previous week in six different types of houses, based on weather data collected at a local airport. By comparing this information with actual fuel use during the same period, users were able to pinpoint management or insulation problems.

"Probably the biggest benefit of this program was that they got into end room brooding," Walpole said. "The second year I was here we had built a windowless research house down at the university's Georgetown substation. For convenience we divided it in half and started all our chicks at one end. We noticed that we saved considerable fuel by doing this, so when we got our computer model for growing birds, one of the things I asked Collins to look at was the effect of using only part of a house to brood in. He came up with 60-percent fuel savings on the computer, and probably 40 percent out in the field."

Though several people claim credit for introducing the concept of end brooding — now a standard practice in the industry — Walpole thinks he and Collins probably were the first to recommend it. "That's likely the most important thing we've done to save energy

costs in broiler production," he said.

In addition to his work with the poultry industry, as Extension specialist Walpole helped dairy farmers with farmstead planning and consulted with swine producers on confinement system design. As a structures specialist, he also answered homeowner questions on a wide range of subjects, including wet basements, sewer back-ups, and painting problems. As a member of the Department of Agricultural Engineering, he taught a course on structures. His retirement marks the end of a long and varied career.

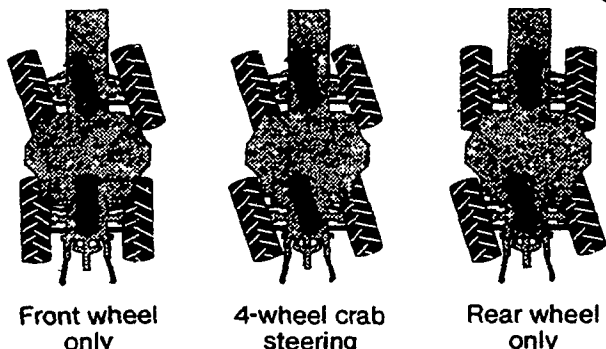
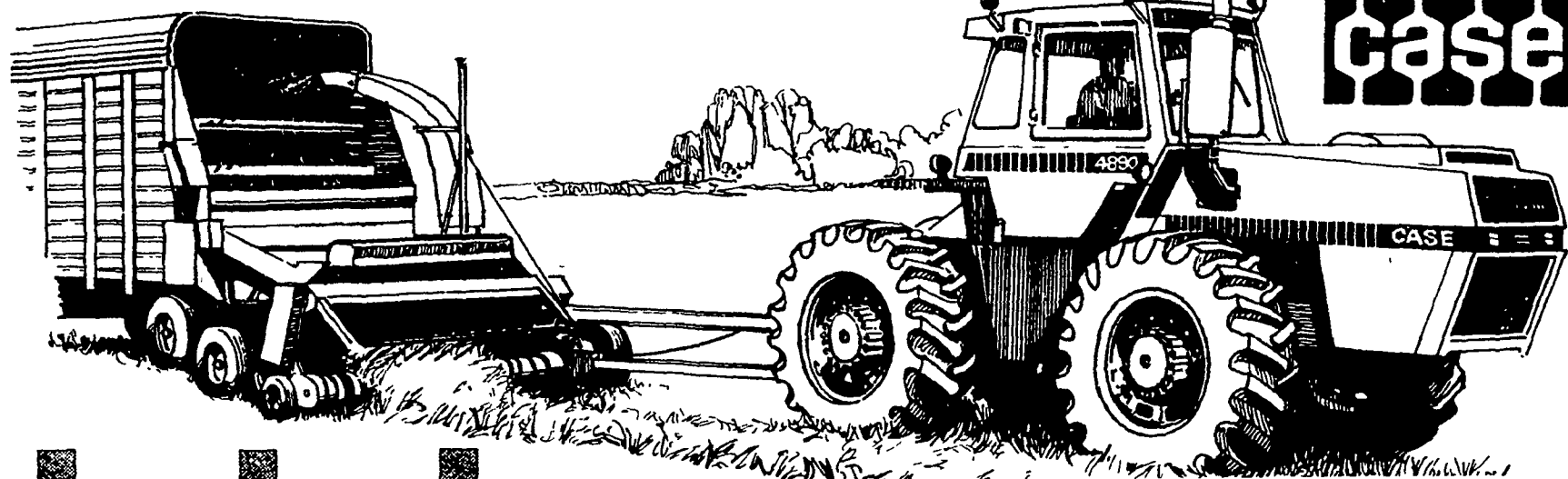


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