REPORT OF 1937 PHEASANT PRODUCTION

STATE GAME FARM - MASON, MICHIGAN

October 1, 1937

Eight hundred fifty hen pheasants began egg laying about April 15 which was one week later than usual. An open formulae laying mash was fed the birds beginning April 1. This mash contained 18.6% protein, and is known on the Game Farm as formulae No. 8. On June 10, when egg production failed to develop as expected, consideration was given the feed. Eight pounds of soy bean oil meal were added to the feed, which apparently gave the egg production a needed stimulant. However, the added protein came too late and the birds did not lay more eggs per day, but held their production up for a longer period. The added protein brought the percentage of protein to 21.8%. (The effect of the added protein was much more noticeable in the Hungarian partridge egg production). However, indications were such to lead us to believe we should order No. 8 laying mash with protein content at least 22% for the 1938 laying season. Thirty thousand eggs were collected between the dates April 10 and July 15. The eggs were from average to good quality. 21,117 were packed at the Game Farm and shipped to various clubs and individuals to be hatched and reared.

Seventy-five hundred eggs were artificially incubated at the Game Farm in settings of 1500, one week to two weeks apart. Fertility ran high, from 86.40% to 93.00%. Hatchability was maximum running from 77.00% to 82.66% of eggs set. This is significant when it is considered that the average percent of 79.02 was figured from <u>all</u> eggs set, includes infertiles, and does not include cripples. In comparison it is interesting to note that 300 eggs from the Jackson Conservation League which were produced from birds fed entirely on Chapin's Lay-All, hatched under exactly the same conditions, resulted in only 70% hatch. This indicates sufficiently, I believe, that our laying mash is satisfactory.

In an attempt to determine more economical and successful brooding methods, a Million Dollar Hen, battery brooder, was purchased and installed in the incubator house where room temperature could be governed. This brooder, built of metal and with two sets of wire floors, involves a new principle of heating--namely, contact heat. One thousand pheasant chicks were placed in the brooder, of which 450 were allowed to remain for observation. One hundred fifty were fed Chapin's 21% Start-All, and 150 were fed our open formulae starting mash No. 7, 28½% protein.

Mortality was low, running about 5% the first 2 weeks. However, development of the chicks after 10 days was entirely unsatisfactory in both groups. Birds on Chapin's feed developed a severe case of cannibalism. Birds on the open formulae mash also developed picking, but not so severely. Chapin fed birds developed more rapidly, but the open mash fed birds withstood the crowded conditions much better. At 3 weeks old, both groups were moved to wire porches with approximately six times the floor space; cannibalism was stimulated markedly by this move, but dropped off quickly when mortality had reached 50%. Birds in both groups went on without incident to 8 weeks old, however, they were very poorly feathered. The Chapin birds were considerably larger than the No. 8 birds. When smoothness failed to develop on the wire porches both groups were moved to the holding pens with birds which had been brooded under the old method.

A second group of birds was placed in the battery brooder to be observed for two weeks and then to be moved to the larger wire porches. Cannibalism did not develop until the move was made. Picking soon stopped however, but the birds continued to look bad and development of feathers was poor. Feeding conditions failed to remedy any of the troubles. However, the growth of the birds was apparently unimpeded by their lack of room. Sanitation was optimum on wire floors of one-half inch hardware cloth, but poor on floors of lesser mesh.

Eight hundred birds of the last hatch of the season were placed in a battery brooder to be observed and checked for ten days for mortality, after which they were removed to the brooding field with the majority of the season's hatch. After ten days 97½% of the 800 birds, or 780 birds, were moved--a mortality of 2.5% for the first 10 days. However, the first night after moving a change in weather conditions brought the temperature down and the hovers in the brooding field failed to function properly--80 of the birds were found dead the next morning. Losses continued high in this group until approximately 50% had died.

Losses at this stage were high in all the brooder houses and fields. Temperatures under the hovers were found to vary 15 degrees each time the thermostat operated. The large square brooding yards, 100' x 100', were a distinct disadvantage to the brooder men. It was impossible to get the birds all in at night. Varied consequences of the system resulted--birds escaping, remaining out at night to chill, hiding and escaping clipping to fly over the fence later. To cut down losses due to the inefficiency of the system it was necessary for the brooder men to spend several hours a day catching and finding birds which had escaped either over the fence or in the field. Lack of a covered pen made it necessary to clip the birds frequently, an operation which invariably resulted in considerable mortality during 48 hours following.

At 6 weeks old all birds raised in the brooder houses and fields were turned out into the large holding pen. With the exception of a small group fed Chapin's Grow-All, all of the birds were poorly feathered and in comparatively poor condition. However, after release into the holding pen, improvement was marked and continued on until the birds were normal.

One group of birds was given open-formulae mash which had been pelleted to test against Chapin's feed. These birds did not show any marked difference from the birds fed ordinary mash. However, there was less waste in

feeding. The pelletted feed was not in the same form as Chapin's feed. However, our tests have not indicated that Chapin's feed contains any advantage over our open mash as far as nutrition is concerned, but rather in its form. It will be interesting to check our open formulae feed against Chapin's if we can get our feed cooked and made under the same process that Chapin's feed is made. The main advantage of Chapin's feed seems to be the form it is in. Comparison of the birds in the battery brooder and in the field left no doubt that Chapin's feed produces a smoother, better looking bird, the reason for which remains a matter of question. As far as mortality is concerned no difference was apparent.

Disease among the pheasant chicks seems to be negligible. Experimental results indicated that a change from the present brooding routine to one of a progressive nature in order to facilitate the care and well being of the birds will materially decrease the mortality. All of the present brooding equipment can be utilized with a few minor repairs. One change which will be absolutely necessary, in order to eliminate the wide range of temperatures under the hovers, is to get the thermostat wafers changed from their present position in the gable of the hover to a point at the level of the chicks. The wafer being where the chicks are should materially aid in maintaining a temperature for the chicks more satisfactorily. (Evidence of trouble of this nature is indicated in Weisner's report of 1936, but we feel here that instead of the trouble being in the wafer it was in the position of the wafer). At any rate this little point will bear observation in the future as much of the mortality in the past may be traced to this trouble.

An explanation of the proposed progressive brooding arrangement is made in the Hungarian partridge report.

Approximately 90% of the loss among the pheasant chicks can be accounted for--chilling, cannibalism, feather picking, vermin and escape,

in that order. Certainly not more than 10% of the loss appears to be mysterious. There is no indication of any contagious disease as a factor limiting pheasant production on the Game Farm.

I do not believe any complicated or expensive procedure will be necessary to effect a much more efficient and satisfactory brooding system for the birds. It is also interesting to note that experiments with the pheasants and partridge indicate that the brooding problems are much alike and that when the brooding equipment is set up, we will be able to place either species in the brooders at a moment's notice and expect to handle both in a very similar manner. Most of the problems of brooding apply to both species.

The battery brooders now present on the farm provided space for somewhat over 4000 birds this year. And though we have indicated it is wrong to start the birds in the battery brooder and then move them, the batteries will serve a most worthwhile place on the Game Farm as utility or emergency holding pens. Comparisons of feeds for birds probably will want to be continued and the battery brooders offer the most efficient method of doing this. Their value as a starting brooder has been proved--2.5% loss in 10 days among 500 chicks is without a doubt cutting mortality to a minimum.

Excepting the pheasant chicks used for experimentation, 1800, which were brooded in battery brooders and on wire porches, all pheasant chicks were reared routinely in the 12' x 10' and 10' x 8' brooder houses with 100' x 100' runs; planer shavings were used for litter. The chicks were held near the electric hovers for five days by wire cloth netting. After five days the chicks were allowed full use of the houses and temporary outdoor runs 16' x 16'. When 2-3 weeks old they were allowed to run in the 100' x 100' runs. Clipping was practiced as often as necessary to keep the birds within the runs, about every three weeks.

Eleven hundred experimental birds were turned into the main flock at ages varying from 10 days to 7 weeks.

Of 7500 eggs set, 5930 birds were hatched, of which 500 were sent away as day-old chicks and 3100 were raised to the age of 12 weeks (including experimental birds).

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Superintendent

11/3/37