Cannibalism in Chicks.

Use Ruby-Red Class in Brooder Houses.

By E. van Manen, Poultry Research Officer, Division of Veterinary Services.

What is Cannibalism?

By the term "cannibalism" is meant any condition which is associated with the partial disfigurement or total destruction of chicks or adult fowls by others of the same kind. Toe and feather picking are vices frequently encountered in the brooder house, while feather picking, which ultimately leads to vent picking, or, as it is commonly called, "eating out behind," is more often experienced in the rearing and laying houses.

How is it Caused?

Fowls are not naturally inclined towards cannibalism. It is a vice which is acquired through some form of mismanagement, and which becomes intensified upon neglect.

In the brooder houses, cannibalism is invariably caused when chicks are overcrowded. Overcrowding leads to overheating, followed by a nervous reaction resulting in either toe picking or feather pulling. Once blood is drawn the vice becomes general, and may continue until several chicks have either been badly hurt or totally destroyed.

The absence of sufficient hopper space at feeding time is another common cause of cannibalism. The chicks crowd at the limited space allowed for feeding, and in their desire to get at the food they peck at each other. Intense scrambling ensues, and sooner or later blood is drawn as the result of such scrambling.

Crowding around the hoppers is often seen when some hoppers are more favourably placed than others. Sunny spots are selected, and chicks will forsake ample room at other hoppers to fight for a place at such a spot. Uniformity in the construction of the hoppers adds to their efficacy in this respect.

Cannibalism also occurs when the brooder house itself is kept at too high a temperature, and lack of ventilation under such conditions adds to the trouble.

When chicks are accidentally hurt, the presence of blood on the affected parts frequently leads to cannibalism. The chicks are attracted by the colour of blood rather than by anything else, and will peck at the affected part merely as a result of curiosity. The taste of blood then leads to further pecking, and the trouble soon spreads.

In the laying houses, cannibalism may be started by the sight of blood on a first few days of brooding should not be more than 90 to 95° F., and that the temperature should thereafter be reduced by 5° every six or seven days.

The question of ventilation should also receive serious consideration, as growing chicks require an abundance of fresh air, especially under the hovers at night. The air of the brooder house away from the hovers need only be moderately warm, as the chicks themselves generate heat while running about the floor.

Chicks should never be crowded either under the hovers at night or at the hoppers during the day. Units of from one to two hundred chicks give the best results during the first week. Thinning out should be practised until the chicks are ready to leave the brooders. Grouping according to size rather than according to age should be practised throughout the season.

The food hoppers should be spaced around the floor in such a way that no particular hopper is more favourably placed than the others, and sufficient feeding space should be provided so that at least 75 per cent. of the chicks can feed at the same time.

With intensive brooding the use of sun-parlours should be encouraged. By using the sun-parlour the chicks are allowed more freedom and are given the full benefit of the direct rays of the sun.

The attendant should at all times be on the alert so that he can remove any chicks which may have been accidentally hurt, or which show signs of having been pecked.

Use of Ruby-Red Light in Brooding.

For battery brooding, especially, the most effective control of cannibalism is by the use of ruby-red window glass for lighting purposes. All the light which reaches the chicks should pass through ruby-red glass. In this way the red light which reaches the chicks prevents them from distinguishing blood on any part of their bodies, and should a chick be accidentally hurt on a toe or feather quill, such a hurt will pass unnoticed by another chick, even although blood is present on the affected part, whereas in ordinary white light such a condition would easily have led to toe or feather picking.

The soft red light within the battery room also serves to keep the chicks subdued, and the absence of lighted spots at the hoppers prevents crowding. For practical purposes it is necessary only to allow the chicks direct sunlight (through the open windows) for from one to two hours daily in the early morning.
they have been allowed direct sunlight, the windows must be closed for the remainder of the day, so that no white light can penetrate to the interior. Ventilation, however, must be provided, and this is easily accomplished by leaving a space of from 12 to 15 inches open over the windows, and constructing a false ceiling at least 6 feet wide from the bottom of this space to run inwards and parallel to the roof. The brooders can then be placed underneath the false ceiling about two feet away from the windows.

The height of the front wall of the battery brooder room will depend upon the height of the batteries to be installed. The room itself need not be deeper than 10 to 12 feet, and the length of the room will depend on the number of batteries in use. The windows should be so constructed that they are pivoted centrally, and will open inwards to admit the maximum amount of light to all parts of the batteries.

For best results the main windows should face east, so that use can be made of the early morning sun. It will also be found convenient to have at least one window on the north side. The more red light the windows can admit, the better will be the result. By also painting the false ceiling and inside walls red, better results are obtained than by leaving these the customary white.

The red light system can be adapted to any type of brooder house, which employs windows for front lighting. The windows should, if possible, be so placed that the sun's rays fall over the entire depth of the house. The extra cost of adapting this system will be worth while, in that better and stronger chicks can be reared without the evils generally associated with brooding.

A temporary substitute for ruby-red glass can be found in painting ordinary window glass with a preparation of eosin, shellac and alcohol. The shellac is first dissolved in the alcohol to obtain a thin paste, and the eosin is then added until the required colour is obtained. The desired colour closely resembles pillar-box-red. The resulting mixture should then be applied to the inside of the glass with a soft, broad and flat brush. The windows must be shaded while the paint is being applied, so that an even surface will be obtained. One coat of paint will be sufficient, as the brooder house is used for only a short period of the year. Should any fading occur, the desired colour could be regained by an additional coat later in the season. Closely fitting red blinds made of some translucent material may also be used instead of ruby-red glass.

The research poultry plant of the Division of Veterinary Services and Animal Industry at Onderstepoort, has been making use of red light for battery brooding for the past two seasons, and has found this system very effective in preventing cannibalism.

The following summary gives the brooding results on 503 day-old White Leghorn chicks for the 1933 season. The chicks were allowed direct sunlight for a period of from one to two hours daily, between 7 and 9 a.m. For the remaining part of the day the windows were closed to admit red light only. After six weeks, the chicks were removed to the floor pens of an intensive brooder house.

Summary of Brooding Results for 1933.
Number of chicks placed in battery brooder, .............. 503
Number of chicks per tray, approximately ............... 100
Date of commencement of brooding, 16 September, 1933.

<table>
<thead>
<tr>
<th>First three weeks in Electric Battery Brooder</th>
<th>Second three weeks in Cold Battery Brooder</th>
<th>Six weeks to three months in Brooder House</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Other Causes.</td>
<td>Other Causes.</td>
<td>Other Causes.</td>
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<tr>
<td>7</td>
<td>3</td>
<td>1</td>
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<tr>
<td><strong>TOTAL:</strong> 10</td>
<td><strong>4</strong></td>
<td><strong>5</strong></td>
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<tr>
<td><strong>GRAND TOTAL:</strong> 19</td>
<td></td>
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<td>Percentage mortality up to 3 months: 3-8.</td>
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<tr>
<th>Cannibalism.</th>
<th>Cannibalism.(1)</th>
<th>Cannibalism.(1)</th>
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<tr>
<td>0</td>
<td>3</td>
<td>3</td>
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**TOTAL:** 6.

Percentage of chicks affected: 1-2.

Note.—(1) Toe pecking occurred when the windows were opened to admit direct sunlight.

BATTERY BROODERS IN POSITION NEAR EAST WINDOWS DURING SUNNING OPERATIONS.

It is interesting to note that toe pecking occurred only after the third week. Owing to a shortage of houses during building operations, the inability to dispose of young cockerels, and the acquisition of only one cold battery brooder, the chicks were rather crowded after the third week. Toe pecking occurred only after the chicks were placed in the cold battery brooder, and was first observed when the windows were opened to admit direct sunlight. This vice was immediately checked by the removal of the affected chicks, and the exclusion of the white light. Of the total number of chicks placed in the battery brooders, only 0.6 per cent. showed signs of having been pecked.

NOTE.—(1) Toe pecking occurred when the windows were opened to admit direct sunlight.
(1) Signs of feather picking were seen on three chicks.
FARMING IN SOUTH AFRICA.

Summary of Brooding Results for 1934.

<table>
<thead>
<tr>
<th></th>
<th>First three weeks in Electric Battery Brooder</th>
<th>Second three weeks in Cold Battery Brooder</th>
<th>Six weeks to three months in Brooder House</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Red Light Mortality</td>
<td>Red Light Mortality</td>
<td>White Light Mortality</td>
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<tr>
<td>Accidental. Other Causes.</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Accidental. Other Causes.</td>
<td>23</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Totals:</td>
<td>23</td>
<td>1</td>
<td>1</td>
</tr>
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GRAND TOTAL: 25.
Percentage mortality up to 2 months (to date): 3-4.

<table>
<thead>
<tr>
<th>Cannibalism.</th>
<th>Cannibalism.(1)</th>
<th>Cannibalism.(2)</th>
</tr>
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<tbody>
<tr>
<td>0</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

Total: 16.
Percentage of chicks affected: 2-1.

Note.—(1) Wing pecking started when the chick legbands were changed to the wings.
(2) Wing pecking continued in the brooder house, the wing bands being the cause of the trouble.

East windows open, to allow sunning of the chicks for an hour early in the morning.

Most of the mortality during 1934 was due to the fact that a certain number of pullets was included in the brooding pens for experiment purposes. These pullet chicks were decidedly smaller and weaker than the hen chicks, and they were generally the ones that died during the first week.

After the first week of brooding there was practically no further mortality, except that two chicks were accidentally killed. Four chicks suffered slight wing pecking during sunning operations in the cold battery brooder, the cause of the trouble being the presence of wing bands; the irritation caused by the wing bands caused the chicks to peck at them and to set a bad example to the rest. When these chicks were removed to a small cage no further trouble was experienced, and the affected chicks were replaced after a few days.

The twelve chicks that were wing-pecked in the brooder house were also placed in a small brooder inside the ruby-red battery room, and kept under observation for a few days. No further pecking was experienced, and the affected chicks were taken back to the brooder house as soon as it was safe to do so.

No cases of toe pecking were recorded during the past brooding season. Four chicks, however, had their toes accidentally hurt on the wire floors of the sun parlours. They were left to recover in the battery brooder room, without fear of the trouble being continued.

The Geeldikkop Disease in Sheep—

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The exposed wool tips (grassy tip). The scorching rays of the sun further cause an abnormal heating up of the wool and skin of the animal, with the result that the animal experiences difficulty in ridding itself of its normal body heat. These factors exert an exhausting influence on the animals, as can be clearly seen from the drowsiness of a flock of sheep during the heat of the day. Under these conditions it is therefore highly necessary that the animals be provided with the requisite shade. Where there are no dense trees in a paddock, the erection of other forms of shelter is strongly advised. Such can be constructed from a light wooden framework roofed over by corrugated iron, thatch, or "hessian" in such a manner that it provides good shade cast low on to the ground and sufficient for a large number of animals. Shelters should be placed where there is the least chance of dust forming, otherwise it may be desirable to have the ground covered with gravel or some similar material.

The Individual Sick Animal.

As far as any individual sick animal is concerned, the foregoing recommendations will cause the symptoms to follow a mild course. However, to minimize losses as far as possible, it is essential to keep sick animals under daily observation. The worst cases should be brought nearer to the homestead, where they can remain undisturbed, grazing on a shorty cropped lucerne paddock provided with shady trees. As soon as a sick animal is detected, it should be placed in the shade. To prevent further swelling and hardening of the skin, a preparation consisting of equal quantities of lime-water and raw linseed oil should be prepared. Lime-water is made up by mixing 1 lb. slaked lime with 2 gallons of water and pouring off the clear liquid when the lime has settled. This liquid is thoroughly shaken with the linseed oil until a creamy consistency is reached. The mixture is then applied daily for a few days to all exposed parts of the head, eyes and ears. As a purgative, 2-3 tablespoonsfuls of epsom or glauber salts dissolved in half a cup of water should be given in the early acute stage.

By carefully following the recommendations given above, losses from geeldikkop should be negligible. However, during the geeldikkop season it is essential that constant attention be given to all flocks grazing on duwweltjie veld.

Finally, it should be realized that the geeldikkop season is comparatively short, usually lasting only two to three months, and hence active measures undertaken during this period and involving a temporary departure from the more or less automatic method of sheep-farming usually practised, will be amply repaid.