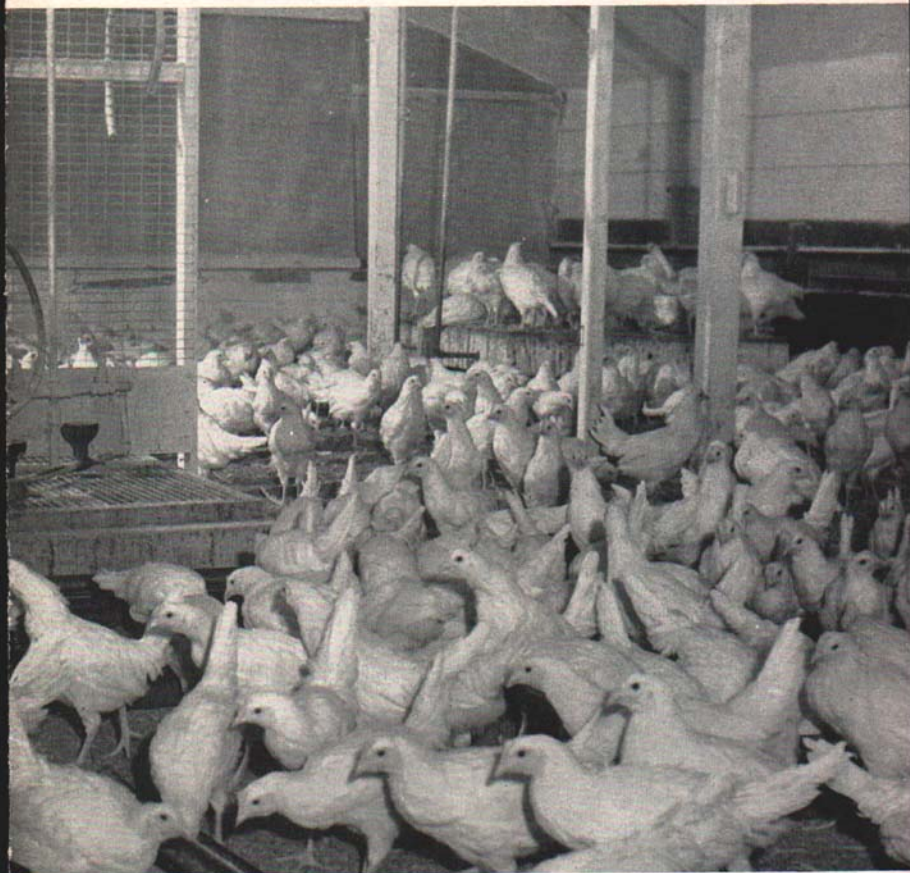
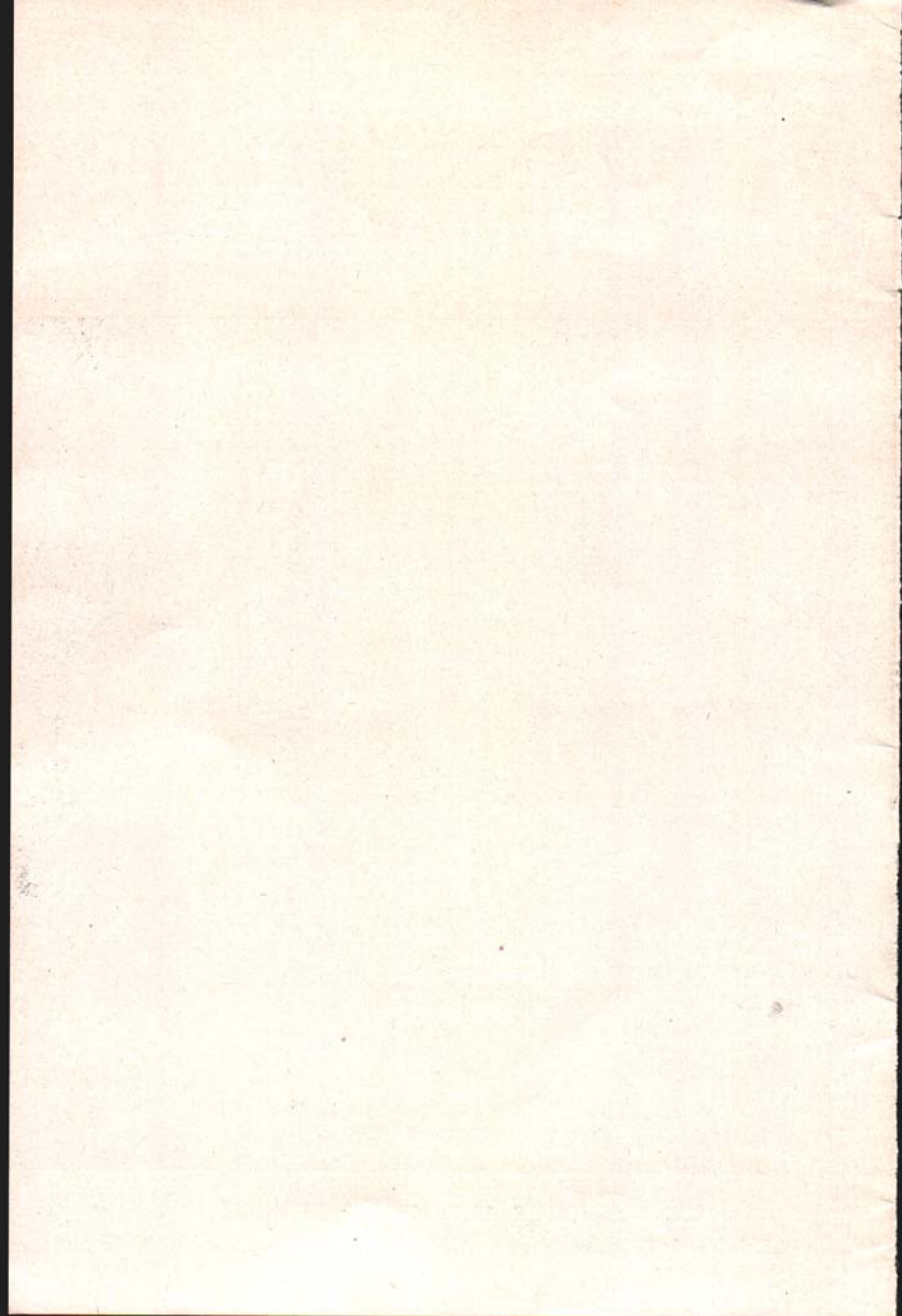


Extension  
Bulletin E-367  
September 1959

# CANNIBALISM and Other Poultry Vices



COOPERATIVE EXTENSION SERVICE  
MICHIGAN STATE UNIVERSITY • EAST LANSING



# Cannibalism and Other Poultry Vices

## *Their Cause and Cure*

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### INTRODUCTION

Social order, or peck order, is evident in any poultry flock. This is the dominance of one individual over another from the top of the group to the lowliest one in the group. The dominant bird pecks all in the flock, and the bottom bird in the order pecks none and may be pecked by all; the rest of the flock fall in between; dominated by some; and dominating others.

In small flocks there is usually a straight line peck order, but in larger flocks, there may be many pecking "triangles." The peck order in flocks of mature hens once established is relatively stable; in pullets it is more unstable or formative; while in groups of males, the order may tend to change. The intensity of the peck varies: blood may be drawn from the comb; feathers may be plucked (see Figure 1); or the peck may be undelivered and only a threat. However, if blood is drawn and sighted by others in the flock, cannibalism is inevitable.

It is apparent from this that social order in a flock is a constant threat to flock health and to poultry profits. The outcasts, those in the lowest level of the order, are kept away from the feed and water and subsequently do not eat enough to lay well. A few birds put in with a larger group already organized are very apt to become outcasts. Immature pullets housed in the same pen with mature pullets usually become outcasts. Insufficient feed and water space aggravates this situation.

To avoid this, pullets should be housed according to maturity and size and individual pens filled at one time; even including 10 to 15% extra pullets in a given pen is a good practice. Then, in the next few days, those birds that remain on the roosts, nest, etc., should be removed and placed in a pen by themselves. These so-called outcasts may do as well as their superiors when given a chance to develop normally. The practice of mixing pens of birds after culling to make room for new pullets is always disturbing to the birds. When this practice is necessary, feeding something extra for a few days, such as a wet mash, may help those birds that have lost rank.

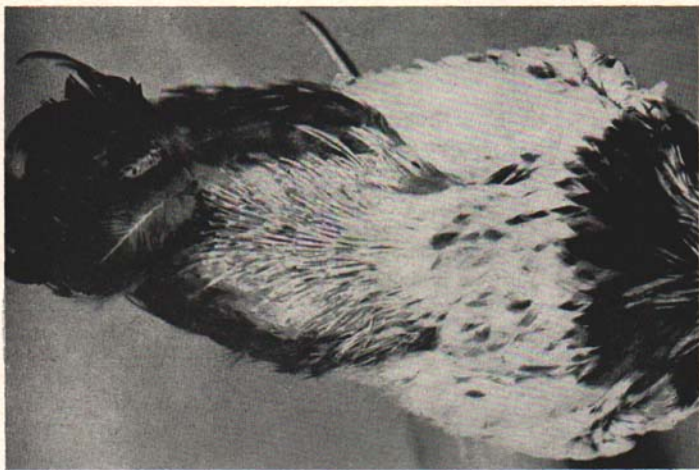


Figure 1. Bare back caused by feather picking.

## CANNIBALISM

The term **cannibalism** is synonymous with feather picking and such other poultry vices as toe, wing, tail and vent picking among chicks, growing pullets, mature birds and turkeys. Cannibalism often results in heavy death losses in the brooding and laying pens as well as lowered market value due to unsatisfactory feathering or bare backs when the flock is sold.

Cannibalism is usually sporadic, but the keen observer may detect unrest or a tendency toward feather pulling before it becomes a serious problem. Often an outbreak may be due to a single bird, or to a few individuals which have accidentally acquired the vice. Poultry of any age are subject to this vice. However, if it can be prevented among the young chickens, less difficulty may be expected among the mature birds.

## CAUSES

The causes of cannibalism are not well understood, but faulty breeding, improper nutrition, overcrowding, overheating, too much light and certain other mismanagement practices are some of the probable factors involved.

## Breeding

All breeds may develop cannibalism at certain times. Nevertheless, certain breeds of chickens and turkeys, and particularly certain strains, exhibit the habit more frequently than the average of all breeds and strains. Since many of these strains which have cannibalistic tendencies are excellent birds in other characteristics, the breeder and poultryman must recognize the potential danger in these particular strains and take steps to keep the vice from developing.

## Nutrition

Nutrition is important in controlling cannibalism. A complete ration, which has a proper balance of all the essential nutrients, satisfies and tends to keep the chicks normal in every respect. The system of feeding, or the nature of the feed, may cause or contribute to the beginning of feather picking and subsequent cannibalism. Pullets, if given a free choice of whole corn and low protein mash, will occasionally fail to balance the consumption of mash. This results in malnutrition. All-mash and limited-grain feeding will usually keep down picking whereas free choice, as mentioned above, and pellets may be more conducive to cannibalism, possibly because these systems give the birds more time to get into trouble.

Certain precautions must be taken when feeding a high energy ration — a ration relatively high in corn and wheat and low in fiber content. As the ratio of calories to protein in the ration increases (higher energy), young stock show a greater tendency to pick feathers. Therefore, it appears that the ratio of calories to protein must be considered along with many other requirements of feeds, in order to provide adequate and efficient rations. High energy rations are gaining in popularity and have many advantages to warrant their use in a profitable poultry program. However, a disadvantage is that cannibalism and feather pulling are usually more prevalent when high energy rations are fed.

Experimental work has shown that feather picking is much greater with a low fiber mash than on a higher fiber mash of the same protein (15.6%) level. However, this same relationship of feather picking to fiber level does not occur with an 18.5% protein level mash. As a matter of fact, a low fiber diet produced slightly less evidence of feather picking.

## NICOTINIC ACID

Nicotinic acid or niacin is necessary for growth, good feathering, and maintenance of a normal condition of the lining of the upper portion of the alimentary tract. Nicotinic acid supplementation to

rations high in corn has proved effective in reducing the feather-picking tendency. The chicken can synthesize niacin, but apparently not rapidly enough to take care of its requirements. This suggests that niacin supplementation may be helpful in controlling cannibalism.

#### **SALT**

Continued feather picking due to faulty nutrition can be controlled by feeding rations containing additional salt at the rate of 0.5 to 2.0 percent of the ration for 3 to 4 days only (**never feed higher amounts of salt for longer periods of time**). Salt is very unpalatable to chickens. Continued use could result in lowered feed consumption, and over a 3- to 5-day period, could have serious effects on a flock in full production. A small amount of salt is necessary, but high levels may be toxic to the point of fatality, depending on the level used.

Another control measure is to sprinkle fine salt, free from lumps, over the mash for 3 to 5 days. A handful to a hopper of feed daily is not too much. Or add a tablespoon of salt to each gallon of drinking water for one afternoon; then three days later repeat the treatment for another half day.

Chickens, like humans, have an occasional desire for, and require, additional salt. If the salt is not supplied in the ration, the birds naturally seek another source, which may be found in the flesh of another bird.

#### **BRAN**

Additional bran has often proved successful in controlling cannibalism that occurs on a high fiber content, low energy ration. Feeding whole oats to the extent of 5 to 6 pounds per 100 layers daily is another helpful practice. Oats may compromise as much as 40 percent of the total feed intake for growing birds. In addition to their feed value, oats appear to satisfy the craving of confined chicks and layers for fibrous material. Thus they serve as one of the most effective preventives of feather picking and other forms of cannibalism.

#### **WHOLE OATS**

Whole oats may be mixed with the mash or fed in separate feeders and kept before the birds at all times after 5 weeks of age. Ground oats are not as effective as whole oats. Feeding too many oats results in pale skin and shank color and may result in Vitamin A deficiency. In any event, do not lower protein level for any appreciative length of time. Avoid a sudden decrease of protein intake which will eventually effect the growth in young stock and egg production in mature birds.

## Feeding Space

The following feeding spaces are recommended:

- Day old through 2 weeks – 1 linear inch per chick or one 4-foot feeder per 100 chicks.
- Three weeks through 6 weeks – 2 linear inches per bird or two 4-foot feeders per 100 chicks.
- Seven weeks through 12 weeks – 3 linear inches per bird, e.g. three 6-foot feeders per 100 birds.

(Linear inches are calculated by measuring both sides of the feeder. Thus a 5-foot feeder has 120 inches of feeding space).

Increasing the amount of feeder space usually increases the feed efficiency and also decreases cannibalism. Timid birds in a flock will always do better when there is ample feeding space. This results in more uniform birds. Feeders should be well distributed around the pens, spreading the birds over all the available floor space. A continuous supply of fresh, clean water is essential at all times. Not less than one 1-gallon waterer per 100 chicks should be used at the start.

**One rule of thumb for water consumption:** Birds will consume as many gallons of water per 100 birds per day as represented by half the age of the birds, in weeks. This rule of thumb applies until the flock reaches 14 to 15 weeks of age. For example, birds 6 weeks of age will consume approximately 3 gallons of water per 100 birds per day. In very hot weather, this amount may be doubled. Provide enough feeders and waterers so that no bird must go more than 10 feet for either feed or water.

## Floor Space

Overcrowding chickens is probably the most frequent mistake of poultrymen. Recommended floor spaces per bird are:

- to six weeks of age — one-half square foot.
- 6 to 12 weeks of age — one square foot
- Laying pens — 3 square feet per bird, unless proper facilities are provided for removal of moisture and control of temperature through positive ventilation.

With ideal housing conditions, which are difficult to attain, some poultry raisers allow 1½-square feet per bird with some degree of success. Providing ample space and favorable environment for chickens reduces mortality, as well as the spread of disease.

Discomfort from excessive heat frequently causes feather picking and cannibalism in the brooder house. Outbreaks are more likely to occur on bright days when the brooder house becomes overheated by the sun. Effective prevention and control of heat discomfort requires sufficient circulation of air. Too much light in the brooder house is another frequently contributing cause of chicken vices. Burlap curtains made from feed sacks, or a coat of red or blue paint on the window panes, may exclude excess light. The reddish light causes blood on the birds to appear nearly colorless or black. Thus, the birds are less likely to peck at the blood.

## OTHER MANAGEMENT FACTORS

### Feeding Time

Any factor which increases the comfort and general welfare of the chicks or poults is good management. Irregularity of feeding causes chicks to become restless and may lead to cannibalism. Feather picking and other forms of cannibalism often follow empty mash feeders. Hungry chicks are more subject to such troubles than well fed chicks. With nothing to eat the urge to do something is expressed by picking on one another. However, experimental work has been reported which indicates restricted feeding (to a limited extent) reduces cannibalism.

### Parasite Control

Elimination of both internal and external parasites contributes to the comfort of the flock and reduces the tendency toward vicious habits. Any of the various forms of parasites results in nervous, restless individuals. To lessen the infestation of lice and mites the house should be kept clean and disinfected.

Lice spend the entire life cycle on the host. Eggs are attached, often in clusters, to the feathers. The entire life cycle takes from 2 to 3 weeks for completion. One pair of lice may produce 120,000 descendants within a few months. Control methods of the individual birds include fumigation, application of medicated ointments, wet dipping, or dusting. Whatever methods are chosen should be repeated at about 10-day intervals or as often as necessary.

Worm infestation is costly because it reduces feed efficiency. To keep these parasites out of the flock, examine the flock thoroughly and regularly every 30 days.



Filthy floor litter may be the cause of parasite infestation. Fresh, clean litter in the brooder house adds greatly to the birds' comfort and may prove to be an important factor in the prevention of trouble.

Dead or injured birds must be removed promptly in order to prevent the other birds from picking them. The taste of fresh feathers, flesh or blood may be the beginning of an epidemic of cannibalism.

## OTHER POULTRY VICIES

### EGG EATING

Egg eating is an expensive vice. It is usually acquired as the result of broken eggs in the nest or elsewhere. Oyster shell or limestone grit should be available at all times. It is a good plan to sprinkle additional lime grit or shell in the regular feed hoppers or add 2 percent limestone to the mash to improve egg shell quality.

Allow one individual nest for each 3 to 5 layers. A community nest, 2 feet deep and 4 feet long, is adequate for 50 layers. Do not, however, try to change hens from the conventional single bird nests to community nests. The addition of more nests may help to eliminate egg eating. A sufficient number of nests properly located before the birds start to lay is even better. Deep nests also contribute to more broken eggs.

During an outbreak of egg eating, gather eggs frequently, up to 5 times daily to reduce the possibility of egg breakage. (This also helps to preserve egg quality). Take care to provide plenty of absorbent nesting material. It is sometimes helpful to remove the broody hens to reduce fighting on the nests which may break eggs and lead to egg eating.

### VENT PICKING

Vent picking is usually caused by a condition known as **prolapse** (falling out) of the **oviduct** which is fairly common in laying birds of all ages and more particularly those just entering into production. Prolapse is generally due to improperly balanced diet. The use of high levels of corn either in the scratch grain mixture or in the mash results in the accumulation of large quantities of fat in the abdominal area. This large quantity of soft fat is responsible for reducing the normal strength of the muscular structure, creating pressure against

the oviduct. This pressure causes excessive friction as the egg passes down and results in prolapse.

Other hens will pick at the exposed parts of a bird suffering from prolapse until the flesh is bleeding, sore and swollen, eventually causing death. Too few nests or sudden scaring of the flock may mean that some hens leave the nest before the oviduct has been retracted.

To prevent prolapse of the oviduct, do not over-feed corn. This will prevent the accumulation of fat. Do not push birds by feeding so heavily that production increases rapidly. If necessary, darken nests so that the prolapsed oviduct may return to its position before it is picked.

### MECHANICAL CONTROLS

If the above management practices do not work, use mechanical aids to control cannibalism. In the laying flock, devices such as vision shields or glasses prevent vision directly to the front, but do not interfere with eating.

Debeaking is another measure. This consists of removing part of the upper beak or a portion of both upper and lower beak. (See Figure 2). Not only is the beak like a knife, but the two parts form the most effective tweezers grown by any animal. By cutting off part of the beak, the birds cannot harm one another.

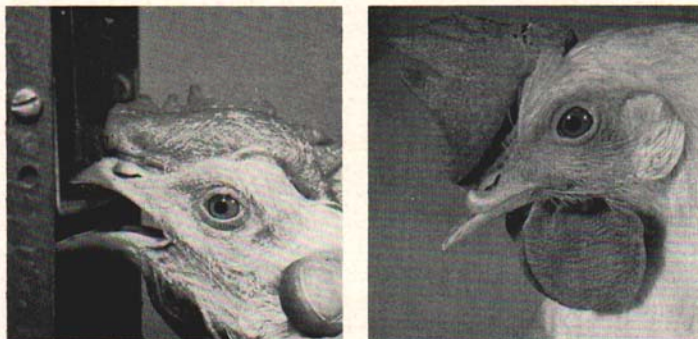


Figure 2. (Left) debeaker for adult birds. (Right) Debeaked bird, upper beak only.

One type of debeaking which is gaining in popularity is the so-called block type in which an equal amount, about one-third of each beak, is cut off. This system puts a blunt edge on the front of the beaks preventing the birds from using their beaks as weapons.

Day-old chicks may be debeaked with either method. (See figure 3). However, feed for the chicks should be deep enough so they can eat

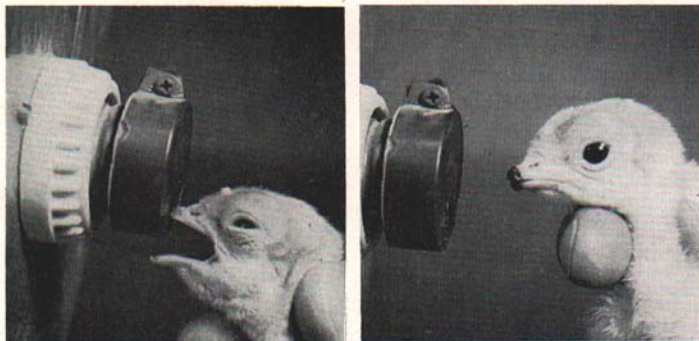


Figure. 3. Chick or poult debeaker. (Left) removing the upper mandible; (right) block removal of both mandibles.

with their blunted beaks. Many believe that the debeaked birds cannot bill as much feed out of the hoppers. Thus there is less feed waste, a saving which offsets the cost of debeaking. The addition of an antibiotic to the ration at treatment levels a few days before debeaking and continued for 2 or 3 days after is good management to help relieve the stress due to the debeaking and handling.

In many instances the administration of additional Vitamin K in the form of menadione sodium bisulphite to decrease blood clotting time will be helpful. A deficiency of Vitamin K may result from a diet containing a sufficiently large quantity of certain coccidiostats, or of certain other additives. A diet deficient in Vitamin K increases the time required for blood to clot after 5 to 10 days and becomes greatly increased after 7 to 12 days. When debeaking is necessary, additional Vitamin K should be administered.

Turkeys should be debeaked at 6 to 8 weeks of age. It is best to use a debeaking machine that cuts and cauterizes at the same time. This reduces bleeding and eliminates possible infection. To do an

effective job of debeaking, cut off the upper beak about  $\frac{1}{8}$  to  $\frac{1}{4}$  inch from the nostril. If too little is taken off, the beak will grow back and it will be necessary to debeak a second time. The turkey grower may secure the "turkey bit" made of heavy wire, or a No. 5 hog ring is just as effective. Insert the ends of the ring into the nostrils, allowing the ring to hang between the beaks to prevent them from closing. (See figure 4).



Figure. 4. Turkey bit attached.



Figure. 5. Pick guard attached to beak.

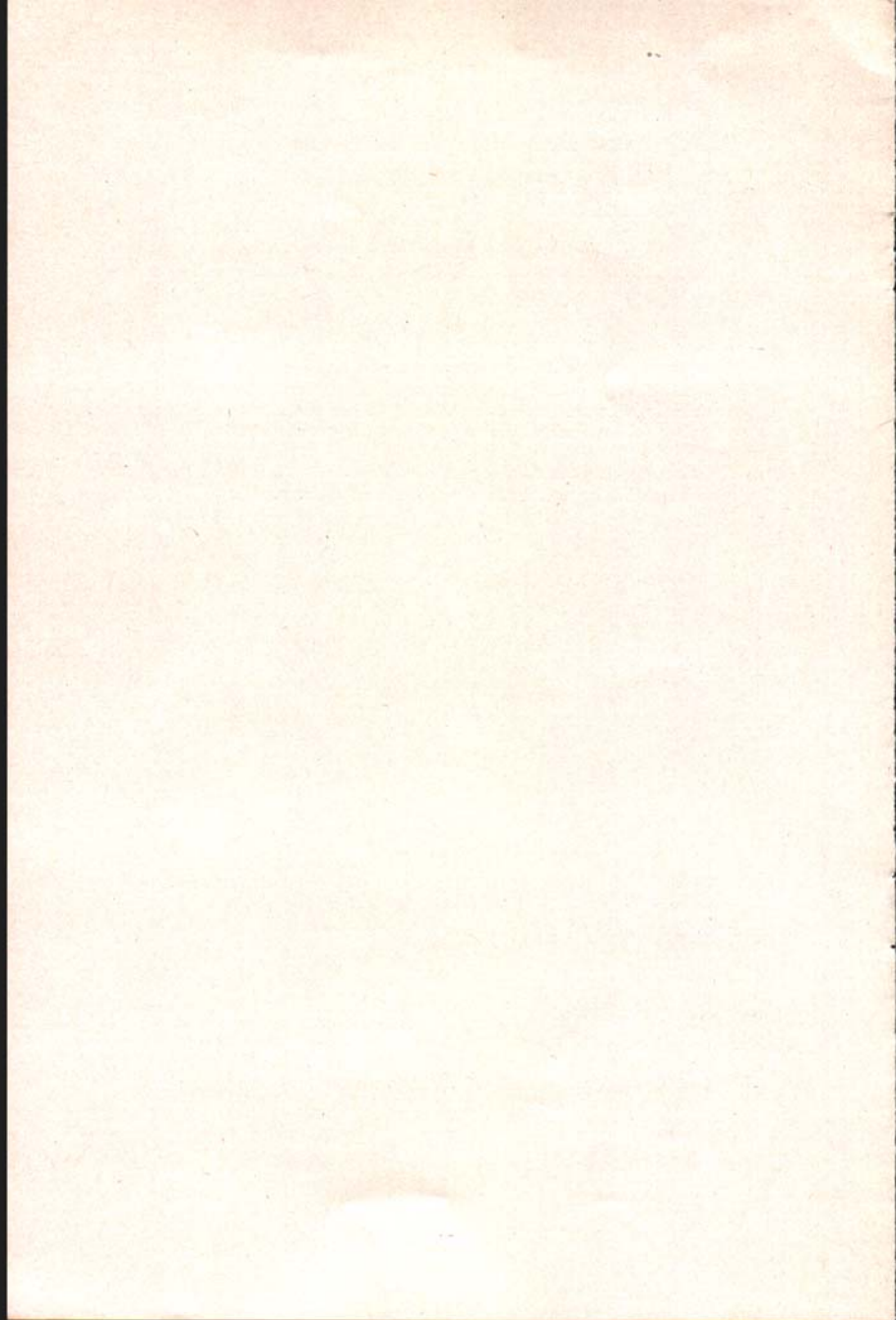
A relatively new instrument is a dog's toe nail clipper. This is a fast, inexpensive, simple, hand operated tool. When properly employed it will not crush the beak and the results are good at all ages. No electricity is required and debeaking is done when the poults are 7 to 10 days of age, cutting the upper beak back to within  $\frac{1}{4}$  inch of the nostril. This method is not recommended for chicks since they require cauterization to prevent bleeding.

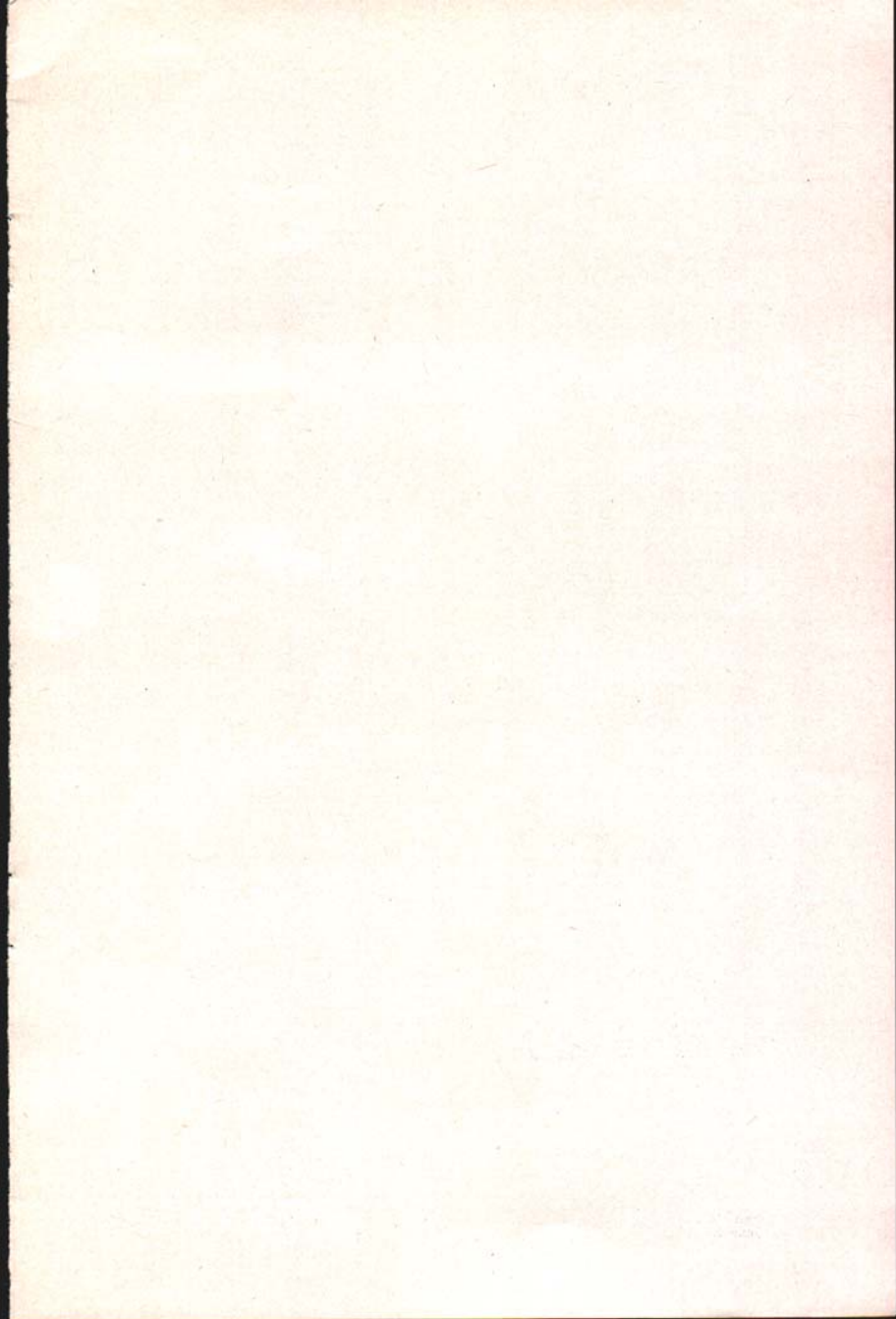
Commercial anti-pick preparations are available. They may be effective in preventing sporadic outbreaks of a few individuals but should not be considered a cure-all for cannibalism. Numerous field trials show no definite improvement with the use of anti-pick preparations. Good management is, and always will be, the answer to poultry vices.

Another effective means for adult birds is the pick guard, attached to the beak. It does not interfere with feeding but prevents picking (see Figure 5).

## SUMMARY

1. The causes of cannibalism are not well understood, but breeding, nutrition, and other management factors are the probable factors involved.
2. Regardless of breed, always be ready to use corrective measures to control cannibalism.
3. On high energy rations particularly, be alert for an outbreak. At the first sign of picking use one of the suggested controls immediately, before the vice becomes a habit.
4. Review management practices such as floor space per bird, feed and water space, condition of litter and general cleanliness. The system of feeding may indicate that debeaking is necessary before cannibalism actually happens. Any management practice that improves the general welfare of the flock will lower the incidence of cannibalism.
5. House pullets according to maturity and size. The outcasts or lower members of the peck order should be housed separately.





Cooperative extension work in agriculture and home economics. Michigan State University and the U. S. Department of Agriculture cooperating. N. P. Ralston, Director, Cooperative Extension Service, Michigan State University, East Lansing. Printed and distributed under Acts of Congress May 8 and June 30, 1914. 1 P-9:59-15M-ST